

MAY 1952

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NEW WORLDS

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PERFORMANCE TEST

By JOHN K. AIKEN

The jar contained a highly unstable liquid. How to isolate it when the slightest vibration or change of temperature could disintegrate it, taking half the city into oblivion? This was more than a test of skill.

Illustrated by QUINN

The morning itself was like trouble impending. As Stocks turned into the gravel path leading to the Research Building, he felt a malaise, a premonition, only partly accounted for by the autumnal overcast of London. It was as if a darkened veil were drawn over his mental vision, something almost tangible which, if only it could be pulled away, would show the world bright and fresh once more. I'm getting middle-aged, he thought; and, turning another corner, came almost without surprise upon the anxious knot of people outside the entrance to the block. White faces turned towards him, tension slackening into relief at recognition.

Something really bad, he thought; but what? Yesterday, while he had been away, had been set aside for clearing up and stocktaking: what could have happened? While these questions were asking themselves, he was automatically counting the group. But all were there: Sara Vickers, his usually placid secretary; Macnair, the senior research assistant; the two young graduates; Max, the instrument-maker; George, the cleaner and steward; and the boy Bill. Sara was paper-white; Bill was clearly near to tears, and Harkness, one of the young chemists, seemed in much the same state.

"What's happened?" said Stocks.

Macnair cleared his throat. "You mind the man Evans we had here?" Stocks nodded. He remembered Evans well enough.

"Well, Evans was a great lad for trying out lines of his own, on the quiet, you may recall."

It was Macnair's principle, when explaining anything technical, to fill in the complete background before coming to the salient facts. It was his theory that no executive, once aware of the point, had the patience to give proper attention to the essential details which followed. Usually Stocks sympathised with this point of view; now he found it most irritating.

"Please come to the point, Macnair," he said.

Macnair looked stubborn. "You'll mind, too, Dr. Stocks, that one of Evans' discoveries was officially taken up, until it turned out that the material was too unstable to be suitable."

Stocks nodded again. This was a somewhat conservative reference to the disaster at the Llyn Gower experimental plant. A disaster for which he had always felt morally responsible.

"This material was Initiator MC 54," went on Macnair. "It was an explosion initiator of the multiple free-radical type, remarkable for the fact

that, once assembled in some bulk, and given time for its characteristic mesh to develop, an explosion once started within it was transmitted instantaneously . . .”

“I am aware of the properties of MC 54,” Stocks cut in, in a tone which he rarely used, and which caused Macnair to short-circuit his exposition.

“It appears, sir, that Evans had got together, unknown to us, a large number of small samples of MC 54, isolated and packed in specimen tubes in cotton wool, which have been in the basement with his other . . . mhm . . . abortive products ever since he left. They were labelled, and of course they were comparatively harmless, as they were. Yesterday Bill was given the job of clearing out the basement. Seeing that all these tubes appeared to contain the same substance and that it looked pure, he had the idea of emptying them all into one large container.”

One large container of MC 54. This was what spelt white faces and tears. The end, perhaps, of the Department. The end, certainly, of his own career. A bitter apostrophe on over-helpful laboratory boys who could not surmise that there might be some reason for careful packing, rose to his lips but was suppressed, together with a query: might Evans have been hoping for some such outcome?

“Why on earth didn’t any of it explode while Bill was doing it?” he said.

“It’s a very remarkable fact, that,” said Macnair. “Statistically, it’s virtually impossible—but it’s happened. Perhaps it was waiting for bigger game.”

One of the chemists snorted with nervous laughter. Bill turned several shades whiter, and supported himself with a hand against the doorway.

“Harkness, take Bill home, will you?” said Stocks. And then to Bill: “Don’t worry, youngster. What you did would normally have been quite reasonable. And you must have done it damn carefully to have finished it all in one piece—shows you’re cut out to be a chemist.” He managed a wry grin. “Now get off home and don’t think any more about it.”

He made shooing motions with his arms. Harkness, obviously delighted to be off, took Bill’s arm. “Yes, and you, Max, and George,” went on Stocks, “off you go home—we can’t afford danger-money in this department. Report to-morrow as usual if there’s nothing about us in the news.”

“Look ’ere, sir,” said George earnestly. “I’ll shift ’er, if you’ll only let me ’ave a go. Dr. Macnair wouldn’t let me till you come, or I’d ’ave ’ad ’er all shipshape by now. I’m good wiv me ’ands, sir, you know I am. I won’t drop ’er.”

Stocks smiled. “Thanks, George. You’re a good chap. But Dr. Macnair was quite right. It wouldn’t do. Off you go.” He put his hand on the man’s shoulder, turned him about, and gave him a gentle push. Max followed with no great reluctance.

“Now,” said Stocks briskly. “How long has this been known about? Does anyone else know? How much of the product is there, and where is it and in what?” By this incisiveness, he was thinking, I’m bringing nearer the moment when I have to walk through those doors. This is a one-man job and I seem to have decided that I’m the man. Why? I could muddle and delay and delegate. Why don’t I?

“The MC 54,” Macnair answered with Scottish precision, “is standing on

the island bench in the main laboratory, in a corked two-gallon glass aspirator jar, which is full—there must be ten kilos at least. We have known of it since 9.30, when I arrived: Bill was then about to move it to the store, having labelled it. He finished filling it, downstairs, last night. The inter-crystalline mesh on which its action depends will therefore be fully established. No one but ourselves knows.”

Stocks saw the spread of lawn in front of the research block dimly, through a mist which swirled inward from the edge of his vision. This was far, far worse, the quantity far greater, than he had supposed it could be. His own life, the destruction of the block, were one thing: this might mean the destruction of a suburb, a glare of publicity from which a semi-official organisation such as theirs would never recover.

After a short silence he spoke slowly. “There’s no doubt, I suppose, that it really *is* MC 54? That it isn’t just a practical joke of Evans, or that it’s decomposed during storage? I . . . can’t get over its not having gone up already.”

Macnair shook his head. “It looks exactly like the material Evans used to work with—and it’s very unusual-looking material too, you’ll be aware. I wasn’t minded to sample it for a melting-point, without authorisation.”

“The detonation of that amount in its mesh state would completely destroy every structure within a half-mile radius,” said Stocks quietly. “It’s almost comparable with an atomic, you know.”

In the silence that followed, everyone looked at the familiar building, now ominous, charged with menace. At the sudden peal of the telephone from the entrance-lobby, Stocks again felt his senses quiver for a moment. As he stepped forward, Sara caught his arm. Her eyes, enormous, besought him.

“Please, Dr. Stocks, don’t go in there.”

“I must answer it, Sara. Besides, there’s no more danger there than here.” He disengaged himself, pushed open the swing doors, gingerly eased them shut behind him, found he could not help tiptoeing as he approached the telephone, and felt its vibration cease with irrational relief.

“Dr. Stocks? The Superintendent will speak with you.”

The Superintendent’s voice cut in at once, raised, hectoring: a familiar enough intonation. “Stocks? I met one of your juniors, apparently going home as I came in. He informed me of serious trouble in your building. Why have you not notified me? Why has it been necessary for *me* to ring *you* to discover what is going on? Be so good as to report to me at once.” Slam.

Marvellous for the old boy, thought Stocks. The first real thing he’s had on me since Evans left. He went out, to find Sara, Macnair, and the other young chemist, Lousada, standing in silence.

“The old man. He’s heard of it from Harkness. I’d have had to see him, anyway: we’ll have to inform the government and get the whole neighbourhood evacuated. Sara, come with me. You two, get down to the archives and get me all the available data on MC 54 itself, free radicals in general, particularly polyazo . . . and a book on bomb disposal, if you can find one, and the big Experimental Physics. Meet me at the Skillet in half an hour, or as soon as you can get there—I won’t be long with Phillips, I

don't suppose. We'll have time for a meal and some talk before the police or military can possibly get going. It'll be afternoon at least before I can . . . start on the sample—if it's still there."

He turned away, leaving no time for reply.

Sir Josiah Phillips' air of silver-haired, ruddy-faced benevolence was known to his staff to be a monomolecular layer, easily disturbed—as it was now. The expression with which he listened to Stocks' concise description was of an anticipatory ferocity purely pleasurable.

"So! You engage an incompetent. You permit his work to continue virtually without control. When he has left, you make no investigation of his effects. Owing to insufficient instructions left during your own absence, this happens. You have shown yourself criminally negligent in your work and inefficient in handling your staff. As soon as this matter is cleared up, I will accept your resignation."

The impulse to justify himself was tremendous. Evans had had some personal connection with the Superintendent, had been engaged by him, and had therefore been more or less uncontrollable. When Stocks had become convinced that MC 54 was far too sensitive to thermal and other shocks to work with in a built-up area—in his opinion, in fact, altogether too dangerous to work with—and had stopped the research, Evans had gone over his head to Phillips and got *carte blanche* to carry on with it. At Stocks' threatened resignation, Evans and the work had been transferred to the semi-technical station in the Welsh mountains, where Stocks' opinion had been vindicated at a cost of seventy-two lives. These were the facts.

"My own position doesn't matter for the moment, sir. The important point is that the government should be told and the neighbourhood cleared of people."

"Don't be a fool, Stocks. You are presumably aware that it is your duty to destroy the substance yourself?"

Stocks nodded.

"Very well. Return to your laboratory, wait till I inform you that this building is empty, and then render the material innocuous. You are supposed to be a chemist, you are familiar with its properties. Make a job of it, and don't talk nonsense about the government. Anything to do with the government is *my* concern. If this affair became public knowledge, the Department would never survive the publicity."

"And if I fail, sir?"

"Don't fail!"

"I'm sorry, sir, but whatever precautions I take—and I've not even begun to think of a method yet—there's a strong chance that I'll fail. If I follow your instructions, therefore, thousands of people may be killed."

"And yourself amongst them. That is why, however slap-dash and irresponsible your normal methods of working, on this occasion I imagine you will take enough care to ensure your own safety."

The injustice, the sheer naked arrogant stupidity of this remark, took Stocks' breath away for a moment.

"I'm extremely sorry, sir. But if you won't let the government know, I must. They'll listen to me, remembering the Llyn Gower disaster. If the prestige of the Department is what most concerns you, I think you'll agree that it would be better if the information came directly from you, rather

than over your head."

Phillips mouthed wordlessly for a moment, hands clenching and unclenching. When words came, they were drunken, almost unrecognisable.

"Insubordination . . . communist disaffection . . . police . . ."

I've made a mistake, thought Stocks miserably. I could have avoided making him any angrier—I suppose if we'd stood up to him more in the past, he wouldn't be like this, anyway. However, my job's gone—why should I worry about his? He picked up the telephone and asked for a call to the Home Secretary's private secretary, then stepped to the door and beckoned in Sara, waiting hand-clasped in the annexe.

"Miss Vickers has a full account in shorthand of the position, which I have drawn up for this purpose, sir," he said formally. "There's been no time to type it, so she'll read it. When this call comes through, will you introduce this statement, or shall I?"

. . . and all this time, he thought, while I'm tangled up with this kind of thing, that large container of MC 54 is waiting there: at any moment an unbalance in temperature, a cosmic ray, pure idiosyncrasy, may cause an electron-pair shift which will be contemporaneous with a trillion others, and we'll cease to exist without ever knowing it . . .

The telephone rang. He gave Phillips five seconds; then picked up the receiver.

Five hours later, he stopped his two-seater at the improvised barricade at the top end of University Street and showed a card to the commanding officer of the guard, who looked him up and down, checked his thumb-print, compared him with a photograph, and examined the car, raising his eyebrows at the mass of literature dumped in the spare seat.

"Why anyone should suppose that impersonation of *me* is likely, I can't think," said Stocks drily.

"Orders, Dr. Stocks. Always some unbalanced people who'll do these things if they see a chance of a bit of free destruction, and the government broadcast will have mobilised them . . . now, I've some instructions for you. An advisory board of scientists has been set up to help you: here's a list of their names. Ring through to me here, at that number"—he jabbed a forefinger at the paper—"if you want to contact them. I'm to arrange for any equipment you want—it'll be made specially, if necessary. Just say the word, expense no object. I'm Colonel McKenzie, by the way."

"I don't see how these old boys can hope to help me," said Stocks. "But no doubt it's kindly meant. It's just that no one but myself knows anything about the stuff, and I don't know much. Still, I suppose they may keep me from doing something damn silly."

"Well, you'll have plenty of time to think before you start work—if you haven't already got your plan?"

"Not a glimmering. For one thing, most of the lab. reports on MC 54 turn out to be filed in the Research Block itself—so I'll have to get in there to go through them. For another, I haven't so much as set eye on the . . . specimen yet. But how d'you mean, I have all this time? It may go up any second, literally."

"I know, old boy," said McKenzie. "And it's pretty tough on you, but orders are, you're not to go monkeying with it until you get word from me

that all these people are moved. Not that we think you're going to . . . make a mistake, you know." He waved a hand down the road, at the little knots of people, pushing handcarts and wheelbarrows, straggling away from them. "We're letting them out at the other end of the road. The broadcast didn't seem to do much good, and the house-to-house check took longer than we reckoned, getting 'em all to realise it was serious business. Some of these folk will get left behind at doomsday. They've been told to be clear by four—about another hour. But they won't be all away till six or later."

Stocks was running his eye down the list of eminent men who had been appointed to advise him. He noted that Phillips was not one of them. Poor old boy, he thought detachedly, he's properly queered himself this time.

He was about to get back into the car when there came a flutter of running footsteps, and he was confronted by Sara. Her face, if possible even whiter now, seemed to have shrunk, or her eyes grown still larger. She grasped his arms, looking up at him like a sick, terrified child.

"Oh Dr. Stocks . . . I'm in time ! I *couldn't* find where you'd gone after lunch, I should have come here and waited . . . please, *please* don't go in there, don't sacrifice yourself uselessly. Let them fire on it, remember Elyn Gower. I know you're terribly clever but still the chances *must* be against you, why should *your* life be added to destruction that's certain anyway ?"

Amid the tumble of words, an analytical corner of Stocks' mind was conscious of an amused, detached note: how like a woman, to pass in a breath from "chances against" to "certain destruction !" He took her arm and put her firmly away.

"You mustn't delay me, Sara. We've wasted far too much time as it is."

"Then take me with you !" Her voice rose, breaking. "Take me with you—I can't bear to wait and wait ! I love you, do you see ? I love you !"

Response to this was from another part of his mind. His imperturbable Sara ! The efficient and self-contained secretary, to whom he had laid a modest and apparently quite hopeless siege for two years and more !

He shook his head. "Time enough to talk when I come back, my dear," he said gently, and nodded to McKenzie, who took Sara's arm. Stocks got into the car and drove through the lifted barricade without looking back. As he edged his way through the tangle of miscellaneous transport—even including a big farm-cart with a couple of huge draught-horses—he wondered what these bewildered people would say if they knew who he was, and felt a renewed surge of guilt.

He must not fail.

Many of the houses were already deserted, windows dutifully open but curtained, only he knew how pathetically futile a precaution. A turmoil of thoughts ran through his mind, disjointed and feverish. Unfair, he told himself, to have to cope with so much outside the central problem, with all these human entanglements when the question should be purely technical. This was a familiar state of mind. It took him back twenty years, to when he was sitting for his final examination. He was the student of the year, great things were expected of him. But he was poorly prepared, and for this he blamed his home. The incessant parental friction; the jealousy of his elder brother, who was still not above destroying notes and hiding textbooks, as he had done at school: the uncritical, over-solicitous affection of

his sister, always interrupting him with hot drinks and injunctions to rest . . . But he'd done it; he'd got his first class, errors and omissions redeemed by brilliancy and original thought.

There could be no scraping through this time. He could not afford one single mistake.

Not one single mistake. The words repeated themselves, written in pale fire before his mind's eye: and he became aware that the car was at a standstill, that he had automatically pulled up in the main quadrangle. Curious, these gaps in his consciousness: he put uneasily from his mind the half-formed notion that, if he tried to remember what he had been doing since lunch, he would fail . . .

He got briskly out of the car and made the several trips needed to transport his load of books and papers to the lobby of the research block. Finally he turned to survey the green spread of lawn before the Department buildings, lit now by the pallid sun of late autumn afternoon. The words "looking his last" came inevitably, and he turned with a shrug. The swing-doors shut behind him.

He was alone with his problem in applied chemistry.

Again the words repeated themselves as if having an independent existence, and he shook his head to try and clear it, oppressed again by the feeling of that imminent dark veil. He must get to work, give himself no time for introspection.

The first thing to do was to make a survey. He had seen the "large container" many times already in his mind's eye; he must see it in fact. He eased open the door into the main laboratory, walked quietly in. The lights were on, one window open. These represented an infinitesimal added danger of thermal shock, which he dealt with at once. Then he came to the island bench.

A glass jar, standing about eighteen inches high by nine across, filled to the top with a crystalline mass, so darkly red as to be almost black. A jar containing one single vast molecule, in effect: one stupendous molecular entity which could, in one lightning step, *react*. Stray twinkles caught his eye from facets here and there, and he could not suppress the thought that one photon, on its way to his own eye, might be the factor which started the holocaust.

The stuff could not be moved outside the building until it had been made harmless—decomposed, dispersed. Therefore he must first, and fully, study all the known facts about it. The file was in his own office, next door, where it had been undisturbed since Llyn Gower and the complete stoppage of work on MC 54.

Decacyclene triacontazonyl. A highly condensed multiple free-radical aromatic compound which, when left for a few hours in bulk, formed an intercrystalline mesh, a quasi-polymer, in effect a single molecule which, on almost any type of shock, released, for every separate tiny sub-molecular unit, thirty molecules of nitrogen—*instantaneously*. The volume increase was not outrageously large, even allowing for the temperature rise—certainly not more than a million times. It was the suddenness that did the trick: the question whether the explosion was really propagated in zero time, or merely at the velocity of light, by triggered electron-shift like a domino-trail, was

still being debated—on paper—by the physical chemists, who, in Stocks' opinion, had invented the terms quasi-polymer, mesh state, and so forth, as a cover to the fact that they didn't really understand the process. That it happened was an experimental fact. Whatever the explanation of its violence, the explosion would be no more impeded by the glass of the jar than a furnace-blast by a piece of tissue-paper. The jar would be transformed at once into a fine mist of molten, of boiling glass, moving outward at frightful speed. The concrete of the Research Building would behave like a matchbox full of T.N.T. The surrounding suburb would only differ from one struck by an atomic bomb in its freedom from radioactivity. But none of this would matter to him. To all intents and purposes as if smashed against a sheet of steel—the air behind him—he would be flattened into a thin, circular . . . He retched. He had been one of the investigators at Llyn Gower. This line of thought was out.

The velocity of chemical reactions was lowered by falling temperature. At absolute zero, it was zero: chemical reaction was impossible. But was the detonation of MC 54 a true chemical reaction. A moment's thought convinced him that it was. The hoodoo with which it had been surrounded obscured one's thought about it, that was all. It followed that, whether or not the detonation-wave through the . . . molecule travelled with infinite velocity at room temperature, at some lower temperature its speed must be finite, before becoming zero at absolute zero.

Must it? Or would it merely be the activation that failed to take place, making the explosion impossible at minus two seventy-three degrees and improbable at very low temperatures—but no less violent if it happened? Entropy . . . the entropy of the reaction would tell him: but to know the entropy you needed the reaction characteristics, and these were the very things he wanted. Evans' work? Hang on, you could calculate the entropy from the structural formula and crystal structure: the first was known, in a way, but the second? It was what all the argument was about.

As he settled down in his office to go through the research papers and internal reports on which the answer must depend, the telephone-bell rang. Although he had been expecting this, nevertheless it made him momentarily jump and crouch. The quickest way to the lobby—he had always stood out against having a phone in his office—was through the main laboratory: he preferred to walk round through Sara's office and along the passage. His hand was damp as he lifted the receiver, his voice not entirely steady.

It was, of course, McKenzie, formally reporting that it was now in order to go ahead with what he described as "practical work." "It's also been suggested by the advisory panel, Dr. Stocks, that you phone me at intervals to report your conclusions, and any steps you have in mind, before taking them. O.K.?"

This seemed a good idea, although another delaying step, and Stocks agreed to ring occasionally, not at any fixed times. The panel, so far, had no advice to offer, it seemed, but sent good wishes. Stocks thanked them sardonically, and asked that a well-known firm of scientific suppliers be asked to stand by over-night in case he wanted anything quickly; this gave him a pleasant feeling of authority. "Even yet I'm not ready to begin," he added. "I'm just having a cosy read." His attempt to speak lightly and

with confidence was not altogether successful, and anyway was interrupted by McKenzie, who broke in to say that his . . . friend Miss Vickers would like a word with him. There followed Sara's voice, a terrified babble whose content he did not gather before breaking in.

"Stop, Sara, please. There's one more thing I must say to Colonel McKenzie." And when McKenzie answered: "Will you give Miss Vickers this message, Colonel? My love to her, and will she please go to my sister's house and stay there without trying to get in touch with me until the job's done, when I'll come straight to her." He rang off, and found that the mere incident of this phone-call had made his hands uncontrollably shaky. How will they be when I come to move the stuff? he wondered. Sooner or later, in some way or other, I'll have to walk up to that jar and shift it. And with this realisation, there came to him such an impulse to delay, to make prolonged calculations, to draw up lists of everything he might want, to call in other advisers, that he had to resist a strong counter-impulse to walk straight into the room, pick the jar up, fill it with paraffin or some neutral liquid, and pour it away . . .

Was a liquid the answer? No, because the shock of pouring it in would be far too great . . . but if run carefully down the side? No, anyway it was no good; the mere presence of a liquid would not affect detonation in the mesh state. A solvent? But there were no solvents which could disintegrate the mesh without heat . . . to run in a hot solvent was unthinkable.

No; it must be cooling; but how much? The reports were useless, he soon found; there simply was not enough data to calculate the reaction characteristics. He could, of course, take a small sample and study them . . .

This idea made him once more break into a sweat. But almost at once he saw that it was a poor one. Any method which involved physical contact of the MC 54 with another solid or liquid was bad. Cooling was the right way. He would stick to that. But how? Electronics were out—would almost certainly unbalance the mesh. Fit a pressure-head to the jar, pump sulphur dioxide in till it liquefied, and let it evaporate? He could do this repeatedly, he supposed, until he got down to the freezing-point of sulphur dioxide—if he knew that was low enough. But he didn't.

He found that he had ceased to think; was sitting at his desk, head in hands, making a low moaning sound in his chest. He pulled himself together with a jerk. The sulphur dioxide method wasn't safe anyway: fitting the pressure-head might be all right (the neck had a welt), but when the gas liquefied, there would be drop-formation and mechanical shock. But he could pump in a permanent gas—air—to as high a pressure as the jar would stand, let it expand, and get a good cooling effect, though not so good as using heat of evaporation. This seemed better: a good pump, a valve, a stopcock, an attachment for the neck . . .

He must visit the thing again, take accurate measurements, estimate the thickness of the glass. And again he was overcome by sudden lassitude, a desire to sit—not to think but merely to wait. To wait in peace, with no more agony of indecision, for the explosion that then must inevitably come. He would never know.

He jumped to his feet, in three strides was at the door; but was stopped by a sudden thought. His approach to the jar would be much safer if he

wore the fireman's asbestos suit and gloves which were kept in the building: this would lessen the chance of thermal shock. Putting them on, adjusting the mask and mica goggles, he felt a surge of confidence: his brain had at last made a useful suggestion. As he neared the island bench for the second time, he was hardly shaking at all. But it was suffocatingly hot inside the heavy suit: the goggles misted over at once, and the simple matter of measuring the neck and its welt became a nightmare. The scale was difficult to steady with the clumsy gauntlets: twice he heard it click sharply against the glass of the neck: and when he had it adjusted he could not read it, but had to wait until the goggles had partly cleared. It took five minutes, which seemed half an hour at least, to record an outside neck diameter of four inches; inside diameter three and a half; welt a quarter of an inch, giving a wall thickness for the jar of also a quarter of an inch.

In the lobby he hastily stripped off the suit and at once rang McKenzie, now feeling quite as if working on a normal job, and asked for a high-capacity pump (the little one in the lab. would never do), a large pressure-vessel to eliminate gust-formation, and a head and washers to connect with the jar. But as he rang off, a realisation came before which all his new confidence left him. All this depended on two assumptions. First, that MC 54 would be safe to handle before the air itself liquefied. Second, that the glass of the jar would stand fairly high pressure at extremely low temperatures. There was no way of checking the first, so he must risk it . . .

He couldn't risk it.

And by God, there was a way! What a blind fool! At below the boiling-point of nitrogen, the decomposition of MC 54 would give the element as a *liquid* instead of a gas. Whether the reaction was instantaneous or not, the volume increase would be negligible, the explosive force reduced by several powers of ten. The heat of reaction might be enough to boil the nitrogen—would be—but this would take *time*. It might still be violent enough to shatter the building; but hardly more. And the MC 54 would be destroyed. Good enough.

The boiling-point of nitrogen: minus 197 degrees Centigrade. How would the glass stand pressure at that temperature? How to insulate the jar? Glass must be all right at an excess pressure of an atmosphere, because vacuum-flasks were used for liquid air. How long would it take to cool the jar if he only allowed an excess of one atmosphere at each pumping? It couldn't be done. Heat gain from the surroundings would be too great, without the most elaborate insulation. He must use much higher pressures, or insulate the jar.

If he surrounded it with insulation, there on the bench, he wouldn't be able to move it. He would have to use high pressure. To ring McKenzie and get data on the tensile strength of glass at low temperatures. Of ordinary thick, flawed, soft bottle-glass, he thought with rising doubt. No one would have examined it: they'd only have looked at special temperature-resistant glasses, flaw-free, in specimens of standard size. How big a safety factor would he have to allow?

He might have to abandon the whole idea of cooling.

His head was aching. A tightness across the temples, the feeling he got when there was too much administrative work to handle in too little time. Or, as a younger man, towards the end of examinations. He stood up,



walked unseeingly about the office. There must be some other way.

Must there? Must there?

The thing could be impossible. "The difficult we do quickly—the impossible takes a little longer." A silly enough maxim for business; far sillier in science. One of Phillips' favourites.

He could throw in the sponge, tell them he'd satisfied himself that it couldn't be done without an unknown degree of risk. The suburb—its brick and stone, at least, would have to be sacrificed.

No. Something in him was quite definite about this. It wasn't so much the appearance of cowardliness (it wouldn't *be* cowardliness but a perfectly sensible refusal to take a blind chance)—it was the slur on his technical ability, the injury to his self-esteem that an admission of defeat would mean. There must be a way. Or he must take the unknown risk.

Was one man's life worth the brick and stone of a suburb? *His life?*

His self-esteem? His possible future with Sara?

As soon as he was sure there was no way, the thing to do was to walk up to the jar . . . pick it up . . .

No one would ever know that he'd given in. They'd put it down to chance explosion, while he was waiting for the equipment. The suburb was evacuated. Why not get on with it at once, with no more fuss, no more useless thought? Death was in the building with him. He was trapped. The room reeled about him, began to swirl away down a darkening tunnel . . .

He gripped the desk-top, forced himself to stand; stood for a moment; sat down again, with the feeling that a crisis had been passed. He was not going to give in without much more of a struggle than this. He had been beginning at the wrong end. If he could make the stuff "safe," what was he going to do with it? The answer to this question would condition his approach. Drive it out into the country? Dump it in the river? Disintegrate the mesh, and repack it in little tubes? Certainly, the mesh must be disintegrated; better still, the MC 54 must be made to decompose. Where? Could he cool it in the lab., and then move it? A disposal place; a deep hole to drop it into when cold, so that whether or not it went off, the mesh would be shattered . . .

The cosmic-ray shaft. Again (hadn't this happened before, to-day?) the words printed themselves in his mind.

The five-hundred-foot lift-shaft, with a disused tube-railway at the bottom, which Alston and his students had used at one time for their meson studies. If he could drop the jar straight down, the explosion would have the whole of the tunnel to expand into, and five hundred feet of earth above it. Here was a way which combined disposal and destruction; if he could carry it there safely, cooling wasn't necessary. He could even feel disappointment at the ease of it, that inspiration, a lucky bit of geography, rather than logic, had solved it.

And it wouldn't do.

Apart from the chance of an earthquake, the tube-railway tunnel, although not itself in use, was still connected with others which were. He would wreck the entire underground railway system of London. Trains would be blown through their snug burrows like peas through pea-shooters. Unless the teeth of the explosive power were first drawn. At minus 197 degrees, the MC 54 could be dropped: either it wouldn't explode at all—but the jar would be shattered and the mesh disrupted—or the explosion would be quite a mild affair, just so much T.N.T. If he could get it cooled say by the time of the last train to-night on the Piccadilly line.

By midnight or so. He looked at his watch. Six-fifty: just two and three-quarter hours since he had started. Five hours to go; and he was back where he began. It must be cooled. But at least he had his disposal method. That part was solved, if solved for him.

The corridor which ran through to the back entrance also gave on the lift-shaft. The yard there had once been the site of the tube-station, and when this was demolished and the Cosmics Research people had taken over, a sort of lead cupola had been put over the shaft, to keep the rain and soft cosmics out, and house the hoisting tackle.

This was still in place. A simple windlass, a length of stout cord on the

drum, and a large iron hook still suspended over the shaft, which was the usual kidney-bean-sectioned affair, about thirty feet by twenty, split in two to take a pair of lifts by a strutting of girders. The right-hand half was the part in use; the left had been blanked off. Far below, well off to one side in the main tunnel, was the little research room.

The thing was ideal. All he needed was some new cord, an attachment for the jar, an instantaneous severing device . . . and the cooling method. He returned to the lobby, rang McKenzie, outlined the plan, and asked for details of the running-times of the last trains. A warning to be issued to the railway staff, a sanction obtained from London Transport, a query to Alston of Cosmics Research (if he could be located in time) as to whether he minded his ex-laboratory being blasted.

McKenzie was impressed: Stocks could tell this from his tone, and this gave him an extra mental fillip. "This is the easiest bit really," he said. "I ought to have thought of it at once. I've still got to cool it down before it's safe to drop it."

"You'll do it, old boy," said McKenzie. "By the way, some of your equipment's turned up. Shall I fetch it in? I've a deputy here now."

"No—I'll come out for it. No, wait—I'll hang on until the whole lot's arrived; probably want more yet, come to that. I've still some thinking to do."

"Aren't you going to want help when it comes to getting the jar slung on that hook? I've done a bit of bomb-disposal work, you know." There was a distinctly hopeful note in McKenzie's voice, and Stocks smiled with genuine pleasure for the first time that day. "I think I'll be equal to it," he said. "But thanks—I'd appreciate the company, but I can't really justify it."

Whether it was McKenzie's clear approval, or the lift-shaft, he now felt full of confidence. And almost at once his winning method came to him. He had concentrated too much on direct internal cooling of the MC 54 itself. Why not cool the jar, in a bath? Why not prepare the bath, close by the shaft where it would be no trouble to hoist it, and just pop the jar in?

Just pop it in, the super-initiator still in its active state. Well, it had to be faced. If he'd cooled it where it stood, the same risk would have arisen when he came to shift it—he'd have had to disconnect it from whatever cooling equipment he'd used, before it could be moved. One way or another, he had to carry the jar while still dangerous. Safer to take it as it was, at room temperature, than frozen but rapidly warming up.

There was a well-established drill for handling small explosive objects. You never *put* them down. You put down the heel of your hand, you eased one corner of the slightly-tilted object down till it just made contact, you righted the tilt until it stood level, you gently withdrew your hand . . . how did you do this with a twenty-pound jar?

He was sweating again. But in a steady enough tone he managed to give McKenzie a supplementary list. A spun copper can to act as a temperature equaliser, greased on the inside and with several inches of low-temperature grease at the bottom, to give a one-inch clearance round the jar. A giant Dewar vessel to surround the can, and an insulated lid for it with two holes: three-inch central, and one-inch near the rim. A wooden cradle to hold the

Dewar, with a rope sling to which he could fix the hook. And plenty of liquid air. He'd need the pump anyway, to evacuate the jar and prevent formation of air droplets.

"The big Dewar and the can will probably have to be made," he said. "Get them to make it in pyrex so that annealing won't be a problem. Let me know as soon as you can how long they'll be."

He went back to his office and sat down. The advisory panel would check the method. Till then, there was nothing to do; even if they approved, there would be nothing to do till midnight or after. He had not expected so much inaction, and had not provided for it. But now it occurred to him that he was, after all, in the department of which he was head, and that not a vestige of a normal day's work had yet been done. Perhaps, just to-day, he'd keep out of the lab. as far as possible, but heaven knew there was plenty of paper-work.

He was well immersed in the first draft of a report when McKenzie rang to say that the panel approved his scheme, and agreed with him in rejecting the earlier one since there was no information on the tensile behaviour of bottle-glass at high pressures and liquid-air temperatures. The rest of his apparatus would be ready by about ten, as long as silvering of the vacuum vessel was not necessary. The last tube-train went to bed just before 1 a.m. The time for the actual drop would be broadcast as 2 a.m. on the last radio news of the day, and Londoners advised to open their windows and keep them open. A protest by London Transport had been overruled by the government. Professor Alston wished him good luck . . .

"All this makes me feel very important," said Stocks.

"There's no reason, they say, why you shouldn't in the meantime come out and . . . er . . . have a few words with your pals," added McKenzie rather diffidently.

Stocks shook his head at the telephone. "Last words? Thoughtful of them! But I'd be better employed in sleeping. Ring me when everything's turned up."

It would be so damned awkward . . . he'd have time to see his parents, his sister—and Sara—the staff, old Fred Brocklebank . . . feelings would run riot, and he'd come back shaky and full of self-pity. Much better stay in his present emotional vacuum, and rest. He'd write a note or two, take them out to McKenzie at ten. To be delivered If.

At half-past nine the alarm woke him and he made a hasty and drowsy meal of rolls and butter, and tinned soup heated in a beaker over a Bunsen burner. Black coffee made in another beaker finished the awakening process and, his letters written, he prowled restlessly about, occasionally approaching the telephone and then not using it. Now that action was imminent he felt tense, but no more so than before, say, an extraction at the dentist's. He was not shaky and he had been reasonably deft in his experimental work with soup and coffee. But it was very surprising that he'd been able to sleep so long—and so dreamlessly: looked back on, this seemed another of those curious blank times in this day, times which he could not bring himself to probe.

It was half-past ten before the telephone did ring. McKenzie reported

laconically that everything was ready, adding, "You'll never get all this into that micro-car of yours. I'd better fetch it in on the truck, hadn't I?"

"You're very anxious to rush on your fate," said Stocks. "But I've been alone with the damned thing for six hours and I'm not going to have our tête-à-tête disturbed. There's a trailer in the archway. I'll bring it right out."

Turning his back on the building, walking down to the car in the frosty moonlight, wheeling out and attaching the trailer, he felt suddenly much more frightened than he had been inside. But with a ghostly, supernatural fear, as if it were not a mere chemical substance but a demon crouched within, waiting for him. And for the first time he felt a real irritation about the colossal *delay* forced upon him in getting on with the job. More than twenty-four hours now that jar had been there; more than twelve it had been known to be; more than six he had been alone with it; at *any moment* it might explode; and *still* he mustn't even *start* working on it. But the thought subsided; he wasn't being fair. The choice was his own, the risk his choice; the government couldn't afford to let him begin until all reasonable precautions were taken.

When the trailer had been loaded, McKenzie insisted on a formal handshake. "Not meant tactlessly, old boy—just . . . good luck, you know. How d'you feel?"

"Should be a piece of cake," answered Stocks, harking back to a wartime slang he had not used for years—the atmosphere seemed appropriate. "Just as long as I can tell myself from the jar and put the right one down the hole."

He climbed into the car, waved a hand, and drove slowly off. The big Dewar vessel was only packed in a cardboard drum and it wouldn't do to shake it to pieces en route. Better put it into the 'frig for an hour to acclimatise it as much as possible to liquid air.

The suburb, brilliantly moonlit now, was quiet as the depths of the country, the long street deserted as in the small hours of the morning. He wasted no time in looking his last, but rejoined his waiting demon in the darkened building, quickly carrying in the equipment with which it might be exorcised.

The Dewar safely stowed in the 'frig, he decided to occupy the interim by working out how long it would take the jar and contents to get down to minus 200 degrees. Weight of the copper can—specific heat of MC 54 (luckily known—Evans had made a rough microdetermination)—volume and latent heat of liquid air . . .

But first he'd better get ready everything that he could. He cut the steel hook off the old cord, and spliced the new length to it. He was about to give it a few turns round the drum, fix it, and dispense with the rest—for there was surely no need for enough rope to lower the thing right to the bottom?—when he realised the mechanical difficulties that confronted him, single-handed as he was. The windlass was on a narrow platform over the open right-hand half of the shaft. Since he could not possibly lift the whole assembly of wooden cradle, Dewar, copper can, and jar, it looked as if he would have to sling the cradle, put in the Dewar and pack it, and insert the can—and then the jar—while the whole thing was hanging below the platform. And the rope sling, taut as it would be, would get in the way.

It would be exceedingly difficult and dangerous, if not quite impossible. No—there was another way: to assemble the thing at the edge of the shaft, thread the hook in at the last moment, and push the whole caboodle off, winding in a little to make sure it didn't swing right across and hit the far side . . . he felt the sweat break out on his forehead, and knew that he must not delay: his nerve was not so bad, but it could not last forever against this imaginative reiteration of the moment. The moment when he would actually pick up the jar, walk with it . . .

The Moment Was Coming.

He started back, dropping the hook with a clatter and a startled curse: for it was so much, this time, as if a wholly external voice had spoken within his mind, that the memory returned with terrifying force of previous similar incidents on this day beneath a darkened veil. What was happening to him? But the terror evaporated as swiftly as it had come, and he shook himself impatiently. It would be curious if his mind weren't playing a trick or two.

The Dewar should be as cold as it could get, now. He moved the cradle to the edge of the shaft. He fetched the big vacuum vessel, befrosted and slippery, and packed it centrally into the cradle with wood-shavings. A big pad of cotton-wool at the bottom, and it was ready for the can. The can in, steadied against the walls of the Dewar with three cotton-wool plugs, and it was ready for the jar.

The Moment Had Come.

"Bloody dramatic fool!" he said, aloud and angrily. Brusquely he pulled on the asbestos suit, fastened the gauntlets, tied on the mask. As he walked back along the corridor, step by step towards the crux of the problem, he was beset by a host of queries and indecisions. Was he sure about the time of cooling? Could he really assume the stuff would explode—or even scatter—on hitting the bottom of the shaft? It might be totally safe. The jar might not even smash: it was—would be—well packed. It might just sit there, warming up, the last of the liquid air evaporating . . .

"I'll attend to you when I've got it shifted," he said, again aloud, as if addressing a separate person. And he was back in the main laboratory. He was standing in front of the jar, there on the island bench. He was putting out his left hand, firmly grasping the neck, slippery to the asbestos glove. But this, of course, was not the way to lift it . . . his goggles were misted over, but to hell with that . . . with his thumb he tilted the jar until the flat of his right hand would slide beneath it . . .

The telephone rang.

The room leapt and swung about him, mistily receding. He gritted his teeth, hung on to consciousness by sheer mental effort. His hand was still between the jar and the bench, the jar was safely pivoted on its edge. It—*he*—was still there.

"If you'd rung a second earlier, blast you—" he muttered. The ringing continued, insistent, maddening. But the jar was off the bench; he had a bent arm underneath it, the neck in a tight grip, he was backing through the swing-doors, easing them shut. Fifty yards of passage . . . more swing-doors . . . backing again, he caught his heel on the threshold, careened backwards against the doors' feeble resistance and, without a hand to save



himself, only kept his balance by spinning half-round. But he was out. Nothing that was to come could be worse. He was standing by the cradle, the ringing of the telephone muted. Without a moment's pause, for he knew his nerve would not stand it, he bent over the can. This was bad. His arm, supporting the base of the jar, would not go in. He must let go, hold the neck with his fingers only, rely on their strength within the slippery glove on the quarter-inch welt. He had been wrong: the worst, much the worst, was still to come. But the memory of the layer of grease at the bottom of the can sustained him; it would hardly matter if he did let go. He slid away his supporting right hand, and knew at once that he must be quick. His left hand was quivering with the strain, fingers cramping. He could not keep the jar steady. The neck was fiercely trying to prise his fingers open, to slither through. With a soft sound which seemed to him enormous, the jar touched the greased inner surface of the can; it was steadied; it had

slipped down into its grease-bed and he could let go. In more senses than one: he was half-fainting from reaction, and moved dizzily away from the edge of the shaft. It was perhaps two minutes before he was collected enough to remember, with very little amusement, his quasi-comic remark to McKenzie. But the jar was in place. Surely the worst *was* over?

The telephone had stopped ringing.

Steady again, he cased out the cork, blessing young Bill for not having rammed it in, screwed down the pump-union on to its washer, put the big insulated lid over the Dewar, and connected up the pump and started it. While the evacuation was going ahead, he began to fetch the liquid air in its array of small Dewars, and pour it in through the side hole in the lid, outside the can. It steamed and hissed and frothed, and the first four flasks-full boiled away completely. But the heat was going—the can was covered with frost, and there was plenty more liquid air. By the time he had used ten of the little flasks, the big Dewar was half-full of liquid, seething vaporously up round the can. All he had to do now was keep it topped up. And finish working out the rate of cooling.

It took two hours. At the end of that time, the big flask was nearly full of liquid air, boiling gently, and the pressure in the jar was one millimetre. Little danger of drop-formation in the remaining air, or of frost collection. He closed the stop-cock in the pump-lead, switched off and disconnected the pump, and tucked the end of tubing beneath the snowy lid. He was ready.

Was he?

There was still the question whether he'd not made the stuff *too* safe—temporarily. How to ensure that it exploded at all, or at least that the jar broke and the mesh was destroyed? It was one o'clock. He had an hour or so to work this out. But first, was there any harm in getting the whole set-up suspended?

He thought not. And found that, safe though it should now be, at least for everyone but himself, he liked this as little as moving the naked jar. He threaded the hook through the rope sling of the cradle. Then he knelt on the windlass platform, took the handle and began slowly to turn, while with his other hand he held the rope down as near to the hook as he could reach. The cradle began to shift, and he took some of the strain . . . it was teetering on the brink, tilting, liquid air slopping out, sizzling, from under the lid . . . and then it swung free, swept across the shaft in an arc so wide that his breath caught in his throat. But he had taken in enough slack; it fell short of the far side by a couple of feet. His mouth was dry as he knocked the ratchet into place, and his thought was: how much more of this? Because I can't stand a great deal . . .

Reaching down, he poured in another consignment of liquid air. Then he rang McKenzie. "Apart from an oddment or two, I'm ready," he said. "I'm feeling a trifle shaky—I'm going to rest for half an hour. Then I'll work out how I'm going to cut the rope without having my face over the shaft, and how to make sure the damned stuff will go off at all—there'll be plenty of ways, but I'm not strong enough to think of good ones just now."

"Come out and have a drink," suggested McKenzie. "That'll do you a lot more good than a rest. It won't make you tight—I know exactly the state you're in. And there really isn't much to do, is there?"

"I don't think I will, thanks all the same. Anyway, I'd better stay in here

to keep the liquid air going. It wasn't you who rang half an hour back, was it?"

"Not guilty, m'lud. Came at an awkward moment?"

"You might say so," replied Stocks drily. He did not specify. He did not want to think at all about that moment.

"I'll get them not to give you calls except through me—we ought to have thought of that."

"Right. I'll ring you again just before the balloon goes up—or rather, down. Not before two."

He sat down in his office armchair, trying to blank out his thoughts. The attempt was not a success. His mind was at once invaded by a series of detached and half-meaningless sentences, seeming again to drift in from an external personality, the irrelevancies of a dream experienced in wakefulness " . . . remarkably consistent performance . . . conditions on the planet still stringent . . . be careful, in this passive state . . . perceptions keener . . . a touch more, doctor . . ." It was as if he were more than half-dozing; yet he was and had been fully awake. And then, with a shock as numbing as that from a high-voltage line, he found himself staring at the dial of his watch and realising unescapably that half an hour had gone since he sat down.

Was he going mad?

No. This was no more than the response of his tired brain to relaxation. The thing was to give it something to do. Resting was no good until the job was done. He went out and topped up the liquid air, returned to the office and heated up the dregs of his coffee. He felt cold, his senses a little blurred; and there were still things to decide. How to start the fall. How to ensure the explosion.

The fall to the bottom of the shaft would take just over five seconds. If he simply cut the rope, this would give him time to get clear of the shaft, but not into the shelter of the building. Not good enough. He was near enough, now, to success to feel his own safety worth something. The explosion of the MC 54, even in its "safe" state, might be fairly potent. It would be funnelled up the shaft, the shock-wave would hit the cupola and spread. He'd just as soon not be there.

He drank the rest of the coffee in one scalding draught, marched into the now-innocent laboratory, got down the jar of acetone-collodion dope from its highly illegal place on the open shelf, returned to the shaft, and liberally coated a two-foot length of the cord immediately below the windlass-drum with it, putting on further coats as the first dried. Plenty there to burn it through. Then a ten-yard length of quick-fuse knotted round the still-sticky dope and carried into the corridor. And now an initiator to initiate the initiator. Unless Evans had had anything else in his private stock, there was no more than a micro-amount of any such thing in the Department, which was not—could not be, in London—a semi-technical institution. Nitrogen iodide? Quick to make, but too like MC 54 itself in sensitiveness. Azides? More difficult to make and just about as sensitive. Mercury fulminate? Fair enough. First of all, to top up the liquid air again; and to find only four flasks left; he'd have to be quick. Back to the laboratory. A five-litre beaker; switch on the fume-chamber fan; alcohol, nitric acid, mercury. Quantities from the book, multiplied by a hundred, would give

him enough.

He added the nitric acid swiftly to the innocent mixture of alcohol and mercury, gave the beaker a final swirl, and lowered the window. The liquid passed quickly from yellow to dark green, to a sinister olive-black, and abruptly was altogether hidden by the cloud of dark-red gas which surged from it, filling the chamber. A respirator; then he could start cooling at once. He transferred the beaker to a trough of cold water in the sink, arranged a siphon to keep it steadily cooled, and twirled it as it might have been a champagne-bottle, while drifts of red-brown nitrogen peroxide eddied about his face-piece. The mercury had disappeared, and a heavy white-grey powder was settling out of the still frothing liquid. Vacuum filtration; glass-wool filter pad. By the time he had these ready, the fulminate was a dense layer at the bottom of the beaker. No need to worry about hundred per cent. yields. Rinse with ether. Leaving the airstream running to dry his initiator, he ran out to the lobby and rang McKenzie for the last time.

"I'll be ready in about ten minutes," he said. "What I'm going to do now is pack the fulminate into a cardboard tube that I can wedge in the hole in the lid of the Dewar, and bury a small open tube of sulphuric acid in it up to its neck. The sulphuric will splash when the contraption hits the bottom and detonate the fulminate."

"Won't the shock of landing do that anyway?"

"Probably, but not quite certain. The shock will be cushioned by all the wood and glass and liquid air and so on. Anyway, I've known fulminate not go off when put on a paving-stone and hit with a hammer—did it myself when I was a kid. The sulphuric will make certain."

"Right you are. Will you ring again just before you light the match?"

"Don't think there's any need. It's ten to two now. I'll light it at two or as soon after as I can. Cheerio."

"Cheerio, old boy—and don't rush it. You're nearly in the clear."

First of all, to test his fulminate. With a nickel spatula, he lifted a pinch of the grey powder from the filter; took the spatula in a pair of tongs; held it over the flame which had heated his coffee. A brilliant purple flash, a sharp rifle-like report; and for the third time that day, his senses half-fled from him, had to be recalled by a powerful effort of will. Getting afraid of bangs, like a schoolgirl, he told himself crossly.

The fulminate packed comfortably into one of the cardboard cylinders used for packaging small bottles. There was, of course, more than enough to kill him if it blew up prematurely; nevertheless it was so harmless, compared with the demon in the jar that, until it came to burying the tiny open tube of acid in it, he felt quite at ease. Then, his hands began to shake. He had to put everything down, there at the lip of the shaft, and sit down himself for a moment. Three-quarters full of acid would have to do: otherwise he simply could not trust himself not to splash it while working the tube in. Still seated, he tried again. But the minute his hand holding the tube approached the cylinder, it began to shake so much that he hastily withdrew it, the sweat breaking out on his face and prickling on the back of his neck.

The strain was telling fast. He was limp with exhaustion, he realised now. Progress had kept him going through the worst; this trifling physical failure

was breaking him. But he'd planned the thing correctly, he'd all but finished it. Why not bring McKenzie in now and hand over?

No!

He squatted beside one of the supports of the cupola and steadied his left elbow against it. He braced the cylinder between his feet. The tube in his left hand, whose wrist he then took in his right, steadied against his knee. And the tube was in; a few twists, and it was buried to a quarter-inch from the top. The lid of the cylinder, to keep out burning fragments of rope; a loop of twine, to lower it into the lid of the Dewar. Lying out along the platform, he paid out the twine; the cylinder swung gently, pendulum-wise: not nearly enough to splash the acid. It reached the hole, it was in. It was going through, would land askew on the tucked-in tubing beneath, the acid would spill. His estimate that the hole had been narrowed enough by gathered frost to hold it had been wrong.

He pulled up the cylinder, set it carefully on the platform, and let a wave of despair submerge him. So near; but he *could* not do, could not *think*, any more. This was the end. He was within an ace of using his last erg of energy to dash the cylinder in fury against the cradle, against his handiwork slung there below him. Still holding the untamed demon, its animation suspended only.

What rescued him was the suddenly-noticed fact that there was no sign of liquid air boiling within the big Dewar. He carried the cylinder back to the mainland, then emptied the last four little flasks into the big one. The thing should be safe now, but not for long.

It was three minutes to two.

Something to fix round the middle of the cylinder, so that it would sit on the shoulder of the hole instead of falling through. No time for anything fancy. Rope? A cardboard disc, glued on? Rubber tubing? And he had it—a rubber ring, the kind used for protecting glass cylinders.

He ran to the store, found it locked, got the key from his desk, and was back with a handful of the rings of assorted sizes in less than a minute. One slightly too small, to fit tightly and hold the weight of the cylinder. Yes—he had the right size, but it would be a struggle to get it on. He could not risk leaving the open tube of acid inside while he did it.

His heart was beating thunderously, his breath coming in loud but shallow gasps, the sweat streaming down his face. Once again he found himself involuntarily making a low moaning sound, deep in his throat. In his mind the words "it isn't fair" repeated themselves endlessly. It *wasn't* fair, to be trapped thus amongst trivialities, when he was so tired, so short of time . . .

Time. The last of the liquid air gone. How far below minus two hundred would the stuff be? How quickly would it begin to warm up?

And without having consciously made the decision, he had taken the lid off the cylinder, plucked out the tiny tube of acid, worked the rubber ring into place, and replaced the acid-tube, all in a kind of controlled frenzy. And he was out on the platform for the last time, lowering the cylinder into place. There it sat, symmetrical, solid, steamy wisps drifting out around it. He crawled off the platform and well away from the edge of the shaft before he could trust himself on his feet. But he was in the corridor, the end of the fuse in his hand, the door swinging to behind him.

It was exactly two o'clock. He surveyed his work for a moment, almost with unbelief. Had he overlooked anything? He was far too tired to tell; on the whole he trusted himself. Without giving indecision time to take root, he struck a match, put it to the end of the fuse, watched the little sizzling spark leap away from him, swell into a golden flare as the collodion lit, grow smoky as the rope itself began to burn. And as he turned away, to put the length of the corridor between himself and the dying demon, it was as if the dark veil which had hung over him all that day had been pulled aside, letting in a blaze of light.

He was in a sunlit room—very high, for from the window he could see right across the city, across the river, to the hills far to the south. He was sitting at a table, facing three men, behind each of whom was a standard carrying a glittering mass of mechanism, from which dangled flex carrying pairs of electrodes. Something was being detached from the base of his skull by a person who stood behind him, and out of the corner of his eye he could see that to his rear right stood another mass of apparatus.

"Congratulations, Dr. Stocks!" As the fine-looking man facing him spoke, Stocks recognised him as the "Phillips" of his—dream? No: he knew, was remembering, where he was. But the chairman's words, his genial smile, were passing half-unheeded.

"... may have been last on the alphabetical list, but you're an easy first on performance... welcome to our organisation!"

"I—" began Stocks.

"He'll need a moment, sir," broke in the lean, youngish man on the right, recognised as soon as he spoke as "Macnair." "He's been through so much more than any of the others."

Stocks shook his head dazedly. It still seemed a lifetime ago that he had come into this room, instead of, as his watch told him, two hours. His struggle with the explosive still seemed more than half-real, his present surroundings more than half the incredible materialisation of a nearly-forgotten dream.

The girl standing behind him offered a glass of water, which he drank gratefully, recognising her not only as the attractive creature who had shown him in—the chairman's confidential secretary, he supposed—but also, with further bewilderment, as Sara Vickers. She looked a good deal paler than she had two hours ago. Had *she* been one of the examiners?

"I'm... very pleased, sir," he said formally. "Also a good deal surprised that I've done so well. Looking back, I feel as if I'd done little but nearly fail and then rescue myself more by luck than judgment. And there were several occasions when I was tempted right to the edge of throwing the whole thing up."

The chairman smiled: his character was clearly different enough from that of the fictitious Phillips. "Most of those were, of course, introduced by us through the Hypnotiser," he said. "And you stood them very well. This is one of the severest problems Samuels and Riley here have ever devised. But are there any questions you'd like to ask?"

"Well—it's pure curiosity," said Stocks. "But I would like to know a little more about how the electromesh hypnotiser works—I've never been through it before, you know. I know the basic problem is set up on the

tape, and I suppose that's the same for all the candidates. But variations must begin quite soon—how d'you deal with them? Supposing I'd just picked the . . . jar up, and dumped it into the back of the car, and driven out into the country? That might have shown more courage."

"But it would have evaded the whole technical problem. After all, it wasn't your courage we were testing, so much as your capacity to work well under stress. But I'll leave the explanations to Dr. Samuels—he's the expert."

"Once the problem has been stated, which happened, you'll recall, right at the start, you're on your own," said Macnair-Samuels didactically. "The 'action' you take, the questions you ask of the 'characters'—some of whom, as a matter of convenience, resemble us in facial appearance, as you'll have noticed—are the outcome of your individual psychology and aptitudes. But at suitable moments, we introduced new but prearranged data or incidents. The shaft, for example. Without that, your task would have been impossible without outside help. But we withheld the knowledge of the shaft until it was certain that you'd decided on the right line. Or again, the telephone-call just when you'd lifted the jar. To test your resistance to sudden shocks."

"It did that, all right," said Stocks with feeling. "But suppose I'd just dropped it, then?"

"We would have awakened you at once."

"I must say, it's astonishing how *real* it all is, how all the detail of what you're doing, the people, seem perfectly external and solid."

"It *is* as real to your brain as any genuine experience, far more so than any dream. The only difference from actual experience is that the optical image, or the sound or sensation of muscular action, goes straight to the brain from the E.M.H., or rather from the person or tape controlling it, instead of from the external world. When you decide to do something, I feed to the E.M.H. the picture of your doing it, and even if there are occasional inconsistencies, there's no way in which your brain can tell it from the real thing. The worst that can happen—which did happen to you from time to time—is that you may suspect yourself of mental unbalance; as when some of our interchanged comments came through to you. That, of course, can be corrected at once."

"It's a little terrifying—and mightn't it be dangerous, say, to someone with a weak heart?"

Samuels shook his head. "Heart failure might be conceivable in a highly unsuitable candidate. But screening before the test eliminates that possibility." He went on more thoughtfully. "Of course, it can't be denied that there is *some* danger to the candidate, at least of production of new engrams. But since we know in detail the causative factors, they can easily be cleared. You'll be examined before you leave, at the Hubbard Institute. And you must realise that any such temporary inconvenience to a candidate is much less of a danger than that an unsuitable man should be chosen, as so often used to happen with the old technique of purely oral "interviews." By the end of next year, all new staff engaged by Terrestrial Chemicals will be interviewed by E.M.H.—using carefully graded tests, of course: we don't give everyone such a grilling as you've had."

"Was the method of disposal I used the best?"

Samuels smiled. "I think our technical director is more fitted to answer

that question than I am."

Stocks turned interrogatively to the man on the chairman's left, whom he still could not help thinking of as "McKenzie."

"Your method was one of three, all about equally good," he said. "You'll be able to work out the other two easily enough. Yours, as you handled it, wasted some time, perhaps. You could have cut down the waiting and the risk of spontaneous explosion by demanding an early stoppage of the tube-railway. And you could have made things more certain by *measuring* the temperature of the jar at the last."

Stocks nodded thoughtfully.

"But basically, your method was sound, your rejection of elaborations like electronic cooling was right."

"Wouldn't it have made control of the test easier if you'd left out all the preliminaries and started me off alone in the lab. with the jar?"

"McKenzie" chuckled. "Very much easier—but we'd have left out a very important half of the test. The Director of Chemical Research of our Venus organisation will have to be able to handle people, as well as mere technical problems, however dangerous."

The chairman broke in. "I think we've fully discussed the administrative detail of the job, Dr. Stocks. But there is one other important point. We'd prefer you to be married before you go out there."

"But in your advertisement, you specified . . ."

"Yes. We prefer to make sure for ourselves that our Venus staff are suitably married. Conditions out there are very stringent, you know. Few women have the makeup to stand them."

"I don't feel that I could necessarily approve even your choice of a wife for me, sir," said Stocks stiffly.

"Don't worry unduly—we won't enforce it if it seems impossible. But you've six months before you go—let us know if anything . . . appears likely to turn up."

Stocks was shown out, at the chairman's request, by the girl. She really was extremely attractive, much more so than he had realised when coming in. A good resolute character, too, he judged—nothing like her "test" personality.

"Sara—Miss Vickers—I'm sorry, I still can't get it into my head that you're not my secretary but the chairman's—and I suppose I've got your name wrong, too . . .?"

She shook her head, smiling. "They didn't bother to change my name: you didn't know it anyway. And I've only been his secretary for a short time—I had my test last month. Much less drastic than yours, of course. But what were you going to say?"

"Well . . ." He paused, awkwardly. Then, collecting his courage: "Look, my dear, I know you're not the shrinking creature I kept spurning in the test, but all the same I feel I owe you something for the callous way I treated you. Will you take pity on a lonely provincial, and have dinner with me?"

She smiled again. In the inner room, the three men listening to the dictaphone smiled too. "Worked like a charm," said the chairman. "They'll never know they didn't choose one another in perfect freedom."

The Reason Why . . .

The next issue of *New Worlds* is something of a milestone along the thorny road of British science-fiction. Three significant factors suddenly come to a head at the same time. They are, in order of importance (1) this magazine reaches the longevity of production achieved by colleague Walter Gillings and his earlier magazine *Tales of Wonder*, thus tying for the honour of being Britain's oldest short-story magazine devoted to science-fiction. None of us on the production staff ever doubted such an accomplishment was possible, but we little knew the difficulties that would have to be surmounted before the magic number 16 went up in the frame.

(2) Because of our regular bi-monthly production schedule we are now able to announce the commencement in the next issue of a three-part serial by J. T. M'Intosh, entitled "The Esp Worlds." I know it is not usual for a serial upon a bi-monthly basis (the time factor is too lengthy and patience is not one of humanities' strong points). Nevertheless, we have had many many requests for such a departure—and this story is too good to let pass. Revised and adapted it will undoubtedly see print in book form one day, if Mr. M'Intosh will only realise that he has a winner on his hands.

From our point of view, a serial is a good sales booster. Nothing can be more frustrating to the reader who casually picks up a magazine issue, starts reading a story and then finds it is a serial. Apart from wanting to shoot the editor, he is a highly potential buyer of the remaining serial issues, and having got that far, he should become a confirmed reader of the magazine.

Not long ago a science-fiction reader of many years standing called to see me, and during conversation mentioned that he was still trying to obtain two parts of a three-part serial published in 1932! Despite the fact that the entire story had recently been published in book form—and was cheaper in hard covers than if bought at magazine prices as collectors' items.

(3) As from the next issue the monthly date will be dropped from the magazine cover and the spine, although we shall still publish regularly the middle of February, April, June, August, October and December. There is an obscure but significant reason for this seeming retrogression. Not very long ago British science-fiction magazines were so rare that they were usually placed amongst the rest of the adventure magazines upon the book-stalls and left to make their own way. Nowadays most newsagents group the fantasy magazines together, and because of the regular demand for science-fiction, these magazines have a far longer sales potential.

A number of prominent wholesalers have pointed out to us that since we dated our covers bi-monthly the potential selling time of back issues has been cut considerably—and back-dated issues make up a high percentage of the booksellers' stock-in-trade in this country. It is therefore to our mutual advantage that we return to the numbered cover until such a time as we can go monthly.

We have a very great respect for the wholesale distributors of our magazines—we always seem to be learning something fresh about the trade from them. After all, they know their business better than we do. We have to see that the best science-fiction stories go between our covers—whether they are dated or numbered.

JOHN CARNELL

PRECEDENT

By CHARLES GRAY

A stowaway on an ocean-going liner isn't much of a problem—but a stowaway on a spaceship can be disastrous !

Illustrated by CLOTHIER

The guard looked at his watch, grinned, swung wide the high wire mesh gate.

"Early, Captain."

"Why not?" grunted Manders. He was always a little irritable just before take off. The woman with him smiled.

"Pay no attention, Smokey," she called. "He's afraid he'll miss his train."

Smokey chuckled. "He couldn't offend me anyhow. He can curse me, ignore me, borrow my last cigarettes, and I'll come up smiling. The only thing he can't do is take me with him."

"Why, Smokey!" she laughed unbelievably. "Don't tell me you're scared."

"Sure he's scared," Manders jibed, his good humour restored. "His ma was frightened by a firecracker when he was young."

They all laughed.

A cab drew up to the gate with a squeal of brakes. A man jumped out, flung money at the driver, half-ran towards the guard. Recognising Manders he slowed to a walk, wiped sweat from his face, and breathed deeply in relief.

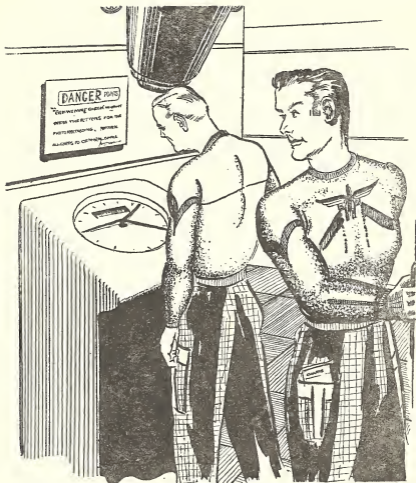
"That watch of mine will be the death of me yet."

"What's it this time?" asked Smokey.

"I'm so scared of being late for take off, that I set it half an hour fast, and then of course forget all about it."

He smiled at the woman. "Hello, Mrs. Manders. Where's Carl?"

"No idea." She frowned a little. "I've never know him to miss a take off



yet. We looked all over the house but couldn't find him," she smiled. "How's Madge?"

"Fine," Tanner grinned. "When I come back I'll be the proud father of a bonny bouncing boy."

"Or girl?"

"Nope. I've already got his name down at the rocket academy, and they don't have girl navigators. It's got to be a boy."

"You'll take what you get," grunted Manders. "And like it. Or I don't know Madge." He looked at his watch, frowned, turned to his wife.

She wasn't tall, but even so she could look down at her husband and the boisterous Tanner. Neither of them was an inch over five feet, and slender in proportion. Manders had to tilt his head a little to look at her.

"Try and talk to Carl when I'm away, dear," he said seriously. "I know his head's full of space, and rockets, but he's too tall, too heavy for a crew-

man. He's only storing up grief for himself."

She nodded gravely. "I know, John, but what can I do? He's still not eighteen, impressed by having a rocket pilot as brother-in-law, and dead set on following your example." She looked anxiously down the deserted road. "I wish that he were here."

From somewhere behind the high wire fence a siren shrilled. Smokey stirred restlessly.

"Have to lock up now, folks," he called.

"Coming," said Manders. He turned to his wife, kissed her, held her fiercely to him for a moment, then stepped back.

"Goodbye, Jean. See you in six months. Ready, Bob?"

The gate swung between them. For a moment he caught a glimpse of her pale set face in the glare of the arclights. Then she was gone.

From the gate they followed a passage to a low group of buildings surrounded by another wire fence. A guard checked their passes, unlocked the gate, locked it behind them. Together they entered the first of the low buildings.

"Here we go again," said Tanner. "Our last bath for quite some time." Manders had already stripped, the hissing of the shower drowning his answer.

"What did you say?"

"I said, I wonder if we've got passengers this trip?"

"No idea," Bob shrugged, and entered the shower. "Anyway we'd be the last to know. We only carry the cargo."

He listened for fresh comments, heard only the rush of water, and shrugged. From the cubicles came snatches of raucous song.

They finished together, scooped their clothes into a large canvas bag, and still wet and dripping, passed into the next room.

An attendant took the bags from them, eyeing them suspiciously.

"It's all right, we're clean," assured Tanner. "Nothing hidden under our skins except a broken heart, and we'll need that anyway."

The attendant wasn't impressed. "Open your mouths, please." He looked, grunted, pursed his lips. Tanner looked suddenly guilty.

"You've forgotten them again," accused Manders.

Tanner gurgled, fingers in his mouth, with a last tug he removed an almost complete set of dentures. "My best teeth," he mourned. "Just as I get used to them again, out they come." He handed them to the attendant. "Why can't I keep 'em in just once?"

"It costs too much to send unessential weight all the way to Mars, just to fetch it back again," Manders grinned. "You know that. You also know that you won't be eating anything needing teeth anyway."

A blast of warm air had dried them during the examination, and they moved across the room to where two sets of clothing lay ready on a bench.

Lightweight underwear, and a garment resembling a coverall, comprised their wardrobe. The coverall fitted snugly, was equipped with zips, and left only their hands and heads bare.

Looking even more slight and boyish in the tight garments, they entered yet a third room.

A man smiled at them, gestured towards a delicate scale. The relief crew, already dressed, grinned and lit cigarettes.

"Sorry, boys," called Tanner stepping on the scale. "You won't be wanted this time."

"There's time yet," grunted one of them. A squat man with a jagged scar running across one cheek. "You could be like Ganand. He collapsed on the elevator. Murphy had to fill in."

"What was the matter with him?" asked Manders interestedly.

"Acute appendicitis, was what they told us. Personally I think he overdid the slimming business. I know that he took wasting pills."

"Fifty-eight kilos, six hundred grams," called the man at the scale. "Better watch it, Tanner. You're putting on fat."

Tanner grimaced and stepped off the scale. Manders took his place.

"Fifty-six, eight hundred and twenty-two."

A man standing by a small calculator added the figures to a previous total. Grinned with satisfaction.

"Good news, boys. One of you has been slimming. There'll be a few extra kilos of cargo this trip." He jerked his head towards the office door. "You can go in now. Brenner will brief you." He held out his hand. "Luck."

Manders ignored the outstretched hand. "Thanks," he said drily. The man dropped his hand, not in the least abashed.

Tanner chuckled. "You'll never catch him out that way, he knows regulations better than anyone." He quoted in a flat tone: "No personal contact of any kind with anyone after weighing."

He followed Manders through the door.

Brenner was a big man, a fact he had cursed ever since the first ship had blasted for the Moon. His size and weight debarred him from ever becoming a crew member, he had become the next best thing.

He was responsible for sending the maximum of cargo at the minimum of cost. That meant constant watching of weight. If a thing could be made lighter, if a thing could be dispensed with, he was that much happier. It was he who had cut crews from three to two. Rumour had it that he was trying to achieve a one-man crew.

He looked up as they entered, waved them to chairs, glanced at the papers spread before him.

"I'm loading a few extra kilos of cargo. One of you is underweight. We can't waste the chance."

Manders nodded. "What are we carrying?"

"The usual staples. Fresh serums. Machine tools. Dehydrated yeast cultures. Cables. Light bulbs. Bulk plastics. Medical kit." He tapped the papers, "I'll load some needles and nylon thread to bring up the load. Anything we can send will be useful."

"How about the mail?"

"I've got it here. The reducer broke down, they've only just sent it across." He threw an envelope to Manders. Mail was typed, reduced photographically, printed on sensitised onion skin paper. The method gave the minimum of bulk, and the maximum of privacy, several letters could be squeezed on to a single quarto sheet, each sheet, folded, serving as its own envelope.

Manders slipped it into a pocket. "What are the load figures?"

Brenner looked uncomfortable. "I've had to cut down the safety margin," he spoke quickly at Manders' movement of protest. "It can't be helped. Mars is going into opposition, and to make matters worse we've had to pull one rocket in for major repair. You can tell them not to expect a ship for at least five months."

"That'll cheer them up," said Tanner sarcastically.

Manders ignored the interruption. "Just what is the safety margin?"

"I've cut it to a half of one per cent."

Manders tightened his lips. "That's too low. The chance is too great. What if we run into trouble?"

"Why should you?" Brenner persuaded. "We've plotted a good take off for you, you'll need very little compensating blasts. Anyway, Manders, there's no help for it. I'm sick of ships coming back with fuel in their tanks, water and air still unused. The colony needs everything we can send them. That wasted mass could make a big difference spread over several trips."

"I suppose you're right," grunted Manders. "Anyway, is there anything we could do about it?"

"Not a thing," assured Brenner. "Not a single thing."

Manders nodded, looked at Tanner.

"Suits me," Bob grunted. "If you want to risk the ship for the sake of a few tons of fuel, who am I to argue?"

"It's your neck, too," Brenner reminded.

Tanner shrugged. "If I don't go now, I never go again. That right?"

"That's about it."

"Then I'm going. What's the chance of losing your neck against the certainty of being grounded?"

Brenner looked at Manders.

"I'll go," he said quietly.

"Good." Brenner smiled his relief. "I knew that I could rely on you two. That's why I've only cut the fuel on this trip. If you turned it down, then so would the rest."

He glanced at his wrist. "Better be getting along now. They will have finished the loading, and—thanks."

"That's all right, Brenner," Manders smiled. "You don't have to tell us how important it is to take a maximum load. You forget—we've seen the colony."

Brenner stared after them in sick envy.

From the office a wired guarded passageway led to the take off area. The ship itself rested on its fins, in the centre of a roped-off enclosure. To the north the waters of Lake Michigan made a soft surging sound against the shore.

Arclights threw everything around the ship into sharp relief. Guards checked the few men still within the barrier, most of them serving the mobile elevator rearing against one side of the ship.

Manders stood for a moment as usual, running a critical eye over things in general. The atmospheric wings were folded within their housings. They would be extended on Mars, ready for the long glide through Earth's atmosphere on their return. It had proved impossible to land a ship tail on. On Mars they could do it because of the weak gravitation and thin air, but

with a thousand mile an hour wind to contend with, plus the enormous amount of fuel needed, other ways had to be found.

They would decelerate, spin the ship, and glide. Friction would cut down their speed, and eventually they would land in the waters of Lake Michigan. Tugs would drag them to shore, the ship would be stood on end, and another trip would be over.

If they were lucky.

Tanner yelled to him from the foot of the elevator, and with a final glance around, he joined him on the tiny stage.

"Anyone would think that this was your first sight of a rocket," Tanner jibed.

"Just checking up," answered Manders absently. He clutched at the rail as with a jerk the elevator began to rise.

"Here we go!"

He stood looking at the lights of the city as they spread before him. Somewhere among them Jean waited. Watching for the fountain of fire that would denote take off. For some reason she could never bear to wait on the field itself. Somehow it made parting easier.

They stopped opposite the tiny port in the nose of the ship. Tanner wriggled through first, Manders could hear him whistling as he settled into his bunk. He stepped off the elevator, waved an arm, a light flashed response. The elevator moved slowly away from the ship.

Carefully he dogged the port shut, making sure the air-tight gaskets hadn't torn or wrinkled. With a wriggle he slid to his feet, climbed the few rungs set into the wall, and was in the control room.

Tanner had already strapped himself in. He grinned at Manders. "Better hurry. According to the firing schedule we blast within the minute."

Manders hastily adjusted the straps, glancing at the bank of instruments between them. On Earth at least, "control room" was a misnomer. All they could do was to wait until the exact second, trip the firing lever, and after a predetermined length of time, cut the rocket motor. They would then have achieved escape velocity, and with luck be approximately on the correct course.

Tanner would then plot the corrections to be made. Manders would fire the rockets in split-second timing, and they would be on their way. Aside from minor corrections, depending on how good the navigator was, they would have nothing to do until landing.

Lying wide-eyed, waiting for the second hand of the chronometer to complete its swing, Manders wished that the early hopes of the astronauts had proved valid. It would have been nice to have a complete course plotted, so that all the crew had to do was to fire the rockets for certain lengths of time.

Unfortunately the unpredictable winds of the stratosphere and troposphere had doomed such wishful thinking from the start. On a journey of several millions of miles, the slightest deviation at the start, resulted in a major error at the end. The winds had provided such deviation.

A grunt from Tanner jerked his attention back to the chronometer. As usual he felt the hollow feeling in the pit of his stomach. A touch of panic. An insane desire to get out. He ignored it.

"Five," he called. Unnecessarily as Tanner could see the chronometer as well as he could.

"Three. Two. Here we go!"

Levers slid beneath his fingers. From the base of the ship a giant began roaring. The sound grew, whistling, screaming, climbing almost beyond audible range.

Weight suddenly began piling on chests. Their heads fell back on to the pillows, neck muscles unable to resist the strain. The mattresses flattened beneath them.

He flickered on the edge of black-out, but frantically fought to keep his senses clear. From somewhere he thought he heard a scream; Tanner, probably, trying to equalise air pressure. The white face of the chronometer blurred, savagely he blinked his eyes.

He had to stay conscious. Automatic mechanisms to cut off the motors would have meant weight. Unnecessary weight as it would be used only once. It was up to the crew to cut their own motors.

The thin red hand jerked, jerked again, covered a fine black line. With a sigh of relief he let his hand fall on to the levers, they slid in their grooves. Suddenly the ship was very quiet.

They were in free fall.

Tanner grinned weakly from a deathly white face. "Made it! For a moment I thought I'd have to cut the motors myself. You're getting slow, John."

Manders lay quietly, trying to still the pounding of his heart. It was true. He couldn't bear the grays as he'd used to do. He glared at Tanner.

"If I'd relied on you we'd have gone to Mars under full power. Yelling like a movie star. What's the idea?"

"Me?" Tanner looked hurt. "I thought it was you letting off. I stopped yelling when I found out it didn't help any."

He unbuckled the straps holding him, and gently floated from the mattress. With a jerk he straightened his legs, pressed the permanent magnets built into the soles of his coverall against the metal bulkhead, and stood up.

"Well, lazy bones, let's find out how we're heading."

He crawled up to the observation port, sextant in hand. Manders grinned up at him. "I'll check the fuel. Yell when you want me to spin the gyros."

A grunt was his only answer.

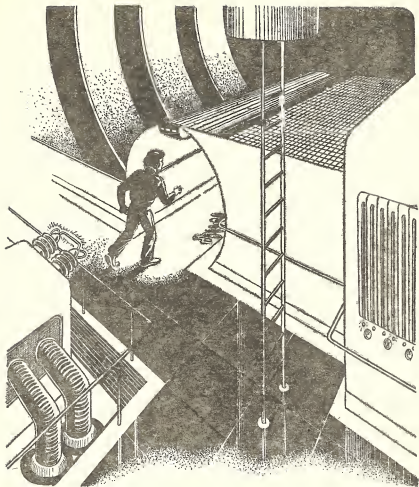
A narrow tube ran the whole length of the ship, from control room to the base of the rocket itself. Below the entrance port, lining the hull in concentric rings, were the cargo racks. Here were piled the boxes, bales, and in most cases, the unpacked merchandise itself. Below the racks were the fuel tanks, occupying the major space in the ship.

At the centre of gravity, in a widened compartment, were the three small gyroscopes. The axis of each in careful alignment with those of the ship itself.

Manders crawled past them, took a quick look at the fuel injectors, pumps, and feed lines. Sometimes they cracked under the strain of take-off. Returning, he paused by the fuel gauge. Fuel was under air pressure at take-off. As the fuel burned, so did the pressure decrease. It was possible to gauge almost exactly what fuel remained.

A yell from above interrupted his study.

"Stand by the gyros."



Quickly he crawled to the widened compartment. Unclipped a handle from the bulkhead. "Ready," he yelled.

"Spin number one two degrees left."

Each gyro was exactly one hundred thousandth of the entire weight of the ship. To turn the necessary two degrees almost six hundred revolutions of the gyro in the opposite direction were needed. Manders sweated as he spun the handle.

An electric motor would have been nice, he thought. Operated by push button from the control room. But electric motors meant power, meant batteries, meant weight. It was one of the things that held up the dream of the one-man crew.

A counter clicked off the last of the necessary revolutions.

"Hold it!" yelled Tanner. "Now spin half a degree on number two."

He waited while the nose of the ship moved sluggishly across the heavens.

"Right. Now we're ready for a five-second blast."

Manders wiped sweat from his face, unshipped the handle, replaced it in its clip. Crawling up past the cargo racks, he stopped, touched something with his hand, held it to his eyes.

"Tanner," he called.

"Hurry up, down there," yelled the navigator. "Let's get on our way."

"Tanner. Come down here." Something in Manders' voice brought immediate action. Tanner came scrambling down the tube, his face serious.

"What is it?"

"Look!" Tanner followed the other's gaze, touched the thin stream of sticky stuff, held his hand closer to his eyes.

"Blood!" he breathed. "By all that's holy. Blood!"

Together they began to rip away the cargo.

He lay in a little cradle among the close-packed cargo. A young man, pale-faced, tall. Blood seeped from his lips, and his breathing was laboured and harsh.

Manders cursed as he saw him. "Carl! The mad fool. What made him do it?"

Tanner said nothing, but his face was grim as they eased the boy into the tube. Mechanically he began to repack the displaced cargo.

In the control room Manders recklessly used items from their small store of drugs, even splashed water into the unconscious boy's face. He was rewarded by a faint moan. The eyelids flickered. With a grimace of pain Carl staggered to his feet.

Manders caught him as he drifted from the floor, impelled by the muscular action of his legs. He steered him on to one of the mattresses, strapped him down, sat beside him.

"How do you feel, Carl?"

"Rotten. My head, my chest. I thought my ribs had caved in."

"It was you who screamed then?"

"Yes. I thought it would help."

"I thought it was Tanner. He thought it was me." He looked at the boy wonderingly. "Why did you do it, Carl?"

"I'm not sure. Bravado I guess. At first I wondered if it were possible to stow away. I never intended coming. Then when they didn't find me," he shrugged, "the chance was too good to miss."

"How did you get aboard?" Tanner asked the question. He leaned carelessly at right angles to the bunk.

"It wasn't too hard," he grinned. "Being your brother-in-law helped. They didn't watch me too closely. I got in by the cargo hatch. Made a place, and adjusted the cargo so it would seem as if the rack was full. I've been there ever since."

"That must have been two days ago," Manders protested. "How is it we didn't miss you?"

"I got a friend to call you up, use my voice, explain my absence."

Manders nodded. As usual he and Jean had been too engrossed with each other to worry too much about Carl taking a trip with friends. A thought suddenly struck him.

"Did you displace any of the cargo?"

"No. Only rearranged it," he laughed reassuringly. "Don't worry, John, you've still got a full load."

"Brother!" said Tanner, "that's just about torn it."

Manders felt suddenly sick.

Carl looked at them with wonder. "What's the matter? I know I did wrong, but you can let me off at Mars if you like. I don't mind. I wanted to go there anyway. You don't have to bring me back."

Tanner shook his head pityingly. "That isn't the question, Carl. It isn't that at all." He straightened, sat on the other mattress. "You've made history. You're the first stowaway on a rocket ship, and I don't envy you at all."

"Why not?" Carl looked at them questioningly. He had lost some of the cocksureness he had displayed when he had first spoken to them. "Why don't you envy me?"

Tanner didn't answer, but looking at him, Carl felt suddenly afraid.

"What can I do, Bob?" Manders glanced at the figure on the mattress and wished that he could talk it over in privacy, but there was nowhere they could go.

Tanner grunted. "You know as well as I do. Shall I tell him?"

"No!" Manders gulped and tried to control his voice. "There must be some other way."

"What? Return? Brenner will break you, imprison you, let you rot in jail. I won't let you do that for a kid too dumb to know better."

"Take him with us, perhaps? After all the fuel is gone, it won't make much difference."

"Who are you trying to kid, John?" Tanner sounded strangely weary. "I don't blame you, after all he's your wife's brother, but you've got to face it. There's only one thing to do. Shall I tell him?"

"No!" Manders sighed helplessly. "I'll do my own dirty work."

Carl grinned as they floated towards him. He was beginning to enjoy himself. Already he could see his name in all the papers, the first stowaway. It sounded good.

He chuckled as they seated themselves on the edge of the mattress. "Don't look so worried, John. Anyone would think I've given you a problem." He laughed. "Relax. After all there isn't anything you can do now, anyway."

Manders ignored the jibing manner. He looked very serious.

"Carl," he said quietly. "I want you to grow up. I want you to grow up awfully fast. Will you try and do that?"

The grin left Carl's mouth. "Sure. Here? I'm all grown up."

"Good. Because you're not going to Mars, Carl. You're not going anywhere. Do you understand?"

"You mean that you're going to take me back?"

"No."

"Then just what do you mean?" Fear tinged the once cocky voice.

Manders looked appealingly at Tanner.

"He means that you're going out of the air-lock. Does that make sense?" Tanner was deliberately brutal.

Carl laughed.

"All right," said Manders curtly. "Now listen and see if you can under-

stand. Don't think that just because you're Jean's brother I won't do it. Jean and I are just two people. On Mars two hundred are depending on us, and Tanner here has his own life to consider. No one asked you to come aboard. You thought that you'd be smart, clever, you were going to do something no other kid had even thought of. You were going to be the number one stowaway of all time."

He smashed the fist of one hand into the palm of the other. "Did you think when I told you about fuel problems, weight and mass, and their relation to consumption, that I was just making a noise?" He looked at the silent figure. "You must weigh about seventy-five kilos. Seventy-five kilos on a load that's measured by the gram! Do you realise how much fuel was burned to lift you up here?"

"Not that it matters now," he continued quietly. "The damage is done. But we dare not chance any more fuel. Before we make the corrective blasts, you, and as many unessentials as we can spare, must be jettisoned. The mattresses can go, we can do without them, and so must the colony," he shrugged. "There's not much left."

"There's nothing left," said Tanner. "And the longer we wait the less chance we shall have. Deviation is increasing all the time."

"But can't you take me to Mars? Surely that won't take much fuel now?"

"We haven't got the fuel. We've burned all our safety margin. If we take you to Mars, one of us will have to stay there. It takes two to run the ship."

"Couldn't another ship bring out more fuel?" pleaded Carl. A thin film of sweat glistened on his sallow features.

"No. There won't be another ship for five months. It will have to return, another five. By the time a ship can bring us fuel, over a year will have passed, but that isn't the main point. The colony depends on regular supplies. Immobilising a ship there will mean several loads less. I doubt if the colony could stand it."

"But they'll have to, John! You can't let me die. Think of what Jean will say!" His whining voice died under Manders' look of contempt.

"You'd risk two hundred lives for a chance to save your own skin," he sighed. "You're going, Carl. Do you go like a man? Or do we throw you out?"

"Try it!" Carl glared his contempt at the slight bodies of the two men. "I could take you both one-handed. Just try it."

He gave a grunt. A whistling sigh. Tanner stood behind him, sextant in hand. He looked at it ruefully. "I hope he didn't break it. It's the only one we have," he sobered as he saw Manders' expression.

"Leave it to me, John," he said quietly. He began undoing the buckles.

Manders stood stony eyed, staring into the depths of space. He felt suddenly old. From below he could hear the sounds of something heavy moving. The clang of metal. A faint hiss. Footsteps sounded softly behind him.

"Is he gone?"

"Yes." Tanner sounded tired. He gripped the other's shoulder. "I know that you're worried about what Jean will say. If you think it will help, I'll

lie for you. You can deny all knowledge of Carl. Let her think he vanished somewhere."

Manders thought it over. They could do it he knew. Brenner wouldn't question the flight chart, or if he did, could be sworn to secrecy. He shook his head.

"You don't think it would be the right way, do you?"

"No," said Tanner. "I'll tell you why. Carl wasn't the only kid to have those ideas. He was lucky in being your brother-in-law, or maybe I should say unlucky. He had the opportunity. But there'll always be those who want a free ride. Mostly it doesn't matter. One more or less hurts no one. On a rocket ship it's different. On a rocket one extra passenger can mean life or death."

"You think I should log it? Record the fact that I evicted my own brother-in-law into space." His mouth twisted. "What kind of a man does that make me?"

"I don't know. I do know that it makes you a good Captain." He spun Manders to face him. "Quit brooding, John. You know we couldn't have done anything else. We haven't enough food and water for one thing. Carl hadn't had any anti-radiation shots. He'd have died on Mars if he'd ever got there. You did the only thing possible for the common good."

"Yes," said Manders thickly, "I wonder if Jean will believe that?"

"I don't know. Women are funny creatures, sometimes they act directly opposite to what we expect. But I know one thing. Brenner will thank you. Every space captain yet to come will thank you. You've earned the thanks of every rocket crew to blast into space.

"You've killed the stowaway. You've crushed the nightmare of a whole crew—that some travel-happy bum will endanger their lives. All the bright boys who think it smart to steal a ride. All the footloose men, the romantic kids, the would-be planet hoppers. All of them will think of you—and stay at home.

"You've done what had to be done. It *had* to happen. It happened to you. You've set a precedent."

Tanner shook him slightly. "Snap out of it, John. Get to the gyros. I'll take another star sight."

Manders nodded dumbly. Opposite the entrance lock he paused. Carl would be still out there, hovering somewhere in the void. He would be there forever.

"Hello, precedent," he whispered. "Goodbye, Carl."

He crawled towards the gyros.

THE END



A MERIT FOR FANTASY

By LESLIE FLOOD

In this article by the Secretary of the International Fantasy Award Fund readers will find complete up-to-the-minute information on the progress made during the past twelve months and an explanation of just what the Fantasy Awards mean.

This is not a eulogy for the late master of fantasy A. Merritt, although connoisseurs who have savoured his works may well consider this title as apt an introduction for the International Fantasy Award. Indeed, as editor of *The American Weekly*, and among the foremost of early fantasy authors to set a high literary standard, I feel that Abraham Merritt would have bestowed his blessing on such a venture, now in its second year, with the announcement of the Award winners for 1952 shortly to be made.

As it is, the reception given to the first International Awards—surprise item at the International Science Fiction Convention held in London last May—has ranged from enthusiastic acclaim through sharp criticism to dubious scepticism, and, in view of such a state of affairs, it is to be hoped that this brief outline of the aims and tasks of the Fantasy Award Committee, together with a résumé of its achievements to date, will serve to ally the interest and sympathy of all readers of fantasy and science-fiction, and to promote the active participation of those, including authors, publishers and reviewers, who have at heart the advancement of literary fantasy in all its aspects.

Literary awards have long been attractions for men and women of letters, and such plums as the Hawthornden Prize, the James Tait Black Memorial or the ultimate Nobel Prize for Literature, have set the crowning seal on the careers of famous authors. The Hollywood "Oscar" is a major event in the film world, and even the thriller writers of America chase their "Edgar." What more natural, then, than to honour the best work of the year in the field of published fantasy? This has long been the happy hunting ground of the few enthusiasts, now widening into popular acclaim, in keeping with this modern age of scientific miracles and future aspirations?

Even so, the idea had not been put into practice when the birth of the International Fantasy Award combusted spontaneously, as it were, during a conversation among four habitués of the London Circle at the *White Horse Tavern* one Thursday evening in April 1951. The originators responsible for this apparently momentous contribution to fantasy recognition happened also to be directors of the British fantasy magazine publishers Nova Publications, namely John Beynon Harris, noted author; G. Ken Chapman, well-known *aficionado* and fantasy bookman; Frank A. Cooper, instigator of many active facets of British fantasy, and myself.

From that moment until the first public announcement at the Convention a few weeks later, development of the scheme was precipitous, and perhaps, from the superior viewpoint of subsequent scrutiny, somewhat incomplete. However it was felt that the first International Convention would be admirable for the inauguration of the Award, particularly as the winners of the 1951 Awards both transpired to be Americans, and a renowned figure of the American fantasy world, Forrest J. Ackerman, would be present at the occasion to accept on behalf of his compatriots the practical evidence of the Awards. For the event, it was only possible in the time available to have ready a facsimile of the actual Award trophies. These were made later by an expert model-maker, and took the form of the traditional space-ship—chromium-plated and mounted on a polished oak plinth for the major fiction award, and bronze mounted on mahogany for the non-fiction award—complete with matching Ronson table lighters and suitably inscribed, the whole approximately 20 inches high. They were later on view at book centres in London, before being despatched to their future owners.

For the benefit of those to whom knowledge of the Fantasy Awards is quite new, I will repeat the results of the 1951 International Fantasy Awards. The prize for the best work of fiction, with a basis of fantasy, from a literary aspect and in accordance with the vote of the self-appointed selection committee, and published in 1950, was awarded to *Earth Abides*, by George R. Stewart of California, U.S.A. The book was first published in Great Britain by Victor Gollancz in 1950 although it had appeared in America the previous year from Random House, and therefore eligible in the opinion of the committee at that time. The prize for the best work of non-fiction, with a basis of fantasy, was given to Willy Ley's *The Conquest of Space*, in collaboration with artist Chesley Bonestell, both of U.S.A., which again, although first published in Great Britain in 1950 by Sidgwick & Jackson, had previously appeared in America from the Viking Press.

The International Fantasy Award was now a *fait accompli*. The enthusiastic reception of the scheme itself at the Convention, and the general recognition of the winners as unanimously meritorious—the international circumstances of the choices being extremely fortunate—proved ample recompense to the sponsors who had themselves undertaken the financing of the project—although subsequent donations from interested well-wishers are gratefully acknowledged. Publicity releases and photographs of the actual Awards were circulated to book and magazine publishers, literary periodicals, prominent personalities in the fantasy world, fans and amateur editors, as widely as possible in Britain and America.

It is to deal with subsequent misconceptions that I am now publicising the activities of the Award Committee, and giving details of the current 1952 Awards now nearing completion—the results of which it is hoped will be announced at the forthcoming London Science-Fiction Convention on May 31st and June 1st.

Considerable publicity has been given the Awards on both sides of the Atlantic and our thanks are due to the perceptive editors for their assistance. One sharp criticism appeared in an article by Anthony Boucher in the *New York Herald-Tribune*, however. This was the result of a misunderstanding, since amicably cleared up, concerning a scheme introduced by

the Committee for the purpose of obtaining funds for the continuance and expansion of the Awards, which, although non-profit making, should not be allowed in all fairness to be a perpetual burden on the original sponsors. The idea was, for our American friends, a dollar-a-throw competition which entailed listing in order of preference their own six choices, with prizes amounting to \$25.00 offered to the three winners placing the books in correct order of merit as revealed by the adjudicators' final selection.

The error which crept in was that this statement inferred that anyone who contributed a dollar automatically became an adjudicator. I am therefore emphasising that this is not so and that the judging of the Award winners will be made by a responsible panel of experts, whose names appear later in this article. The *competition* idea as indicated, however, has been withdrawn. I need hardly add that ordinary philanthropic donations will be, as in the past, gratefully welcomed.

All this, however, is comparatively unimportant. The main question that has been asked, and which is still the most important factor of all, is *who* will be the judges of what are the best works of fiction and non-fiction of 1951 in the fantasy field? Who are the best-suited people to state categorically that a certain book was the best literary achievement in fantasy published last year, worthy of an Award that could conceivably influence the sales of that book, and certainly enhance the reputation of the author? To find the answer to that problem the Award Committee immediately realised that the adjudicating panel would also have to be international, because only the combined knowledge of experts from many countries would give a truly representative result.

I therefore have pleasure in announcing that the following well-known personalities actively connected with many literary aspects of fantasy fiction have been invited to join the Adjudicating Panel, and, as of this writing, most of them have already accepted.

Great Britain

J. M. WALSH—noted mystery writer, fantasy bibliophile, and former science-fiction author.

JOHN CARNELL—editor of *New Worlds* and *Science-Fantasy*, and forthcoming anthologist.

WALTER GILLINGS—one-time editor of *Tales of Wonder, Fantasy*, and former editor of *Science-Fantasy*.

WALTER A. WILLIS—fandom's leading expert and critic.

FRED C. BROWN—noted London bibliophile.

France

GEORGES GALLET—leading Parisian editor and publisher.

IGOR B. MASLOWSKI—fantasy book critic for *Mystère Magasin*.

United States

ANTHONY BOUCHER and J. FRANCIS MCCOMAS (jointly), as editors of *Magazine of Fantasy and Science-Fiction*, both noted connoisseurs, critics and anthologists.

EVERETT F. BLEILER—leading anthologist and bibliophile.

GROFF CONKLIN—well-known anthologist and book reviewer.

BASIL DAVENPORT—literary critic of the *New York Times* and *Book-of-the-Month Club*.

AUGUST DERLETH—outstanding anthologist, author and book reviewer.
 JUDITH MERRIL—leading woman fantasy author and editor.

Sweden

SIGVARD OSTLUND—foremost Scandinavian fantasy bibliophile.

In addition, the following three judges will not be participating upon the panel this year, as they have books eligible for the Awards:—

JOHN BEYNON HARRIS (*Britain*)—noted author.

WILSON TUCKER (*U.S.A.*)—mystery writer and noted critic.

WILLY LEY (*U.S.A.*)—scientist, author and fantasy expert, who will cover German publications.

To return to the 1951 Awards for a moment, I will state that the original committee of four, limited as it was, but with the advice and help of such fantasy experts as John Carnell, did, by virtue of their combined experience and personal good taste, manage to produce worthy winners of that year's Awards. The modest advent of the Fantasy Award, however, could not be allowed to continue upon what might have been construed as a partisan basis, plus the fact that interest in the project had quickly moved into an international bracket. Even though we now have many of the foremost experts upon the Adjudicating Panel, it is hoped that their ranks will be strengthened and improved as circumstances and opportunities arise.

Meanwhile, the actual working Committee of the project consists of the three original members, Chapman, Cooper and myself, responsible for the financial arrangements, publicity and correspondence.

To clear up the question of which books will be eligible, it has been decided that the following conditions must apply: The work of fiction shall be a complete novel, or series of stories by the same author (mixed anthologies are therefore excluded), which is first published in *book* form in any country during 1951. Thus, a story which has seen print earlier in a magazine, perhaps serialised, and subsequently reprinted as a book, more often than not revised or rewritten, is eligible. A new edition of an earlier book is not.

The definition of "fantasy" as an "image-making faculty, mental image; fantastic design; whimsical speculation" admittedly covers everything from the fairy tale to the fantasy of science-fiction; however, I feel that the selection of fantasy books eligible for the Award can confidently be left to the wisdom of the judges.

Eligibility of the non-fiction Award is more difficult to define, even ignoring the black-and-white logic of "non-fiction" being, perforce, "fact." Here the qualification shall be that which attempts to illustrate, or could influence, the progress of scientific or sociological development. In other words, imaginary extrapolations of known facts or accepted theories.

The Award trophies for 1952 will be similar to those for 1951, classically simple, but nevertheless handsome and valuable, and it is to be hoped that sufficient financial support will be forthcoming to maintain the high standard already set, and to establish a sound foundation for the future. The address for the International Fantasy Award is c/o 52 Stoke Newington Road, London, N.16, and donations made out to the Hon. Secretary—"L. Flood," crossed "Fantasy Award A/c."

BREAKING POINT

By JOHN CHRISTOPHER

Max Larkin's toughest problem was to convince a fellow scientist that he should not atomise the world. His only asset was—a television set.

Illustrated by QUINN

The face of the reporter on the call-screen was very young and fresh and feminine. She said brightly:

"And hobbies, Manager Larkin?"

Max said: "Drinking wine, minding my own business, and journalism."

The face darkened in bewilderment.

"And . . . what?"

"Journalism," Max said decisively. He spelled it for her. "Look it up in the Microfilmopaedia."

He flicked the channel closed, and paused to consider the shortcomings of the newer generation. As a reference reporter for Television Services the girl presumably must have a fairly good degree in Revised Humanities with History as a compulsory subject. He thought of the twentieth century tearing down its heritage of forests to create the ocean of newsprint in which it wallowed; all that turmoil of activity no longer recorded even as a footnote in the minds of men. Books, although not read, were still known as a class, if only for their existence as repositories of knowledge and information too arcane or trivial to have been microfilmed. But the journals had disappeared. Three years before Transport & Communications had closed down, through lack of demand, the news magazine provided for tourists on the world's last rail system that shuffled up and down the Italian peninsula. Only one



journal now remained. *Research*, printed in Hong Kong on a hand press and circulated, throughout the teeming planet, to some two hundred and fifty people as eccentric as Max himself.

He picked the most recent copy up, delighting again in the antique, formal beauty of the printed page. It was exhilarating to read it; to be aware of thought laid down in leisurely patterns of communication instead of incoherently flung out to an audience from the chaotic telescreens. An essay on the Minor Grebe Mutation. A further instalment in Yan-Tsun's painstaking analysis of the German Thirty Years' War. And an article, by his old friend, Matthew Laberro, on the early days of Atomics, the first great international body. He realised the telescreen in the wall was still flickering and bawling away and, switching it off, put on his reading lenses and settled down.

"The actual organisation of ATOMICS, out of the world-wide breakdown of the Last War, was in itself a justification of Pareto's neglected

observations on the craft of government. During the interregnum between the Second German War and the Last War the actual atomic scientists had been among the most voluble and articulate of those pacifist and near-pacifist groups utilised by the Kremlin in its political juggling. It would have seemed reasonable to expect that, should any phoenix atomic power organisation rise from the ashes of war, these same scientists would provide its leaders. But the time for talking was over now; all depended on swift and resolute action. Throughout the world shattered and disillusioned social groups surveyed the remaining atomic power centres with a hesitancy that was nicely balanced between worship and savage hostility; and the balance could not hold for long. To an outside observer, indeed, the hostility and resulting barbarism would have seemed inevitable, but in fact this civilisation was only then entering its universal empire stage. The desire for order and stability was very strong, and produced its own response. ATOMICS began to climb into strength and power, but by the efforts not of its scientists but its managers. The men with only pass degrees, but with that insight into the human condition that so often goes with mediocre academic qualifications, automatically came to the front. Where their intellectual superiors had theorised, they acted.

"The movement was a world-wide one, and threw up a world leader. Otto van Mark, before the war an obscure security officer at the Philadelphia plant, set himself the gigantic task of fitting the jig-saw pieces of resurgent atomic energy groups into a planetary cartel that would ignore the feeble national governments in whose territories it existed. Within two years and at some cost in human life—van Mark was not a scrupulous man or he could never have attempted his task—he had succeeded. ATOMICS, the first world-wide managerial group, was an accomplished fact.

"There is no possible doubt that van Mark regarded this purely as a first step on the inevitable path to that world ownership which had tantalised despots for four or five thousand years. First he fashioned a defence for ATOMICS; later he would attack. The defence was simple and effective. He had built a special plant, segmented by automatically removable shields. In the segments he planted fissionable material just below the critical mass. The effect of the removal of the shields was calculated as sufficient to blow the north American continent off the map, and render the rest of the globe quite uninhabitable. The master controlling switch was at van Mark's disposal. The world's fate was in his hands.

"It was a weapon of defence, but it is quite clear from the papers he left that van Mark intended to use it for attack also. He would bluff the tottering regional governments into handing power over to him on the threat of otherwise blowing the planet more than sky-high. Only it was no bluff. Van Mark was the true megalomaniac. There was only one thing he had failed to account for—bad luck. He fell downstairs on a fine June morning, and died of a broken spine.

"His successor, Leverson, lacked van Mark's ambition. Something of a political theorist, he recognised the inevitability of power passing into the hands of the other nascent managerials. He was content that this should be so, and that power should, for the good of mankind, sway perilously between them. For a while he maintained van Mark's special project. But in 1994

with United Chemicals, Lignin Products and Agriculture Inc. firmly planted as managerial, he decided that the risk was thenceforth greater than the advantages and the fissionable materials were dispersed and the project closed down, without any but a handful of the Chief Director's helpers having known of its existence. The world empire was safe."

Laying the journal down, Max wondered idly where Matthew had picked up the story from. History, of course, was no longer regarded as a profitable field of study, but he himself had played about quite a bit among the foundations of the managerial world, and this information was new to him. He remembered, though, that Matthew was Manager Laberro of Atomics, Pennsylvania Section. Probably he had gained access to some private company records. But such an interest was in itself puzzling. Max would not have thought that in the entire circle of subscribers and contributors to *Research*, which was far from being conspicuous for modernism, there was any so dogmatically uninterested in managerialism as Matthew. This scholarly anecdote of the new world's creation did not chime with Matthew's scathing and frequently expressed contempt for it.

From his untidy Sheraton bureau he rooted out the most recent of Matthew's letters. He was studying the crabbed handwriting when the callscreen began to buzz on its mobile stand. He pressed the button on his chair-arm and it glided noiselessly towards him. When he flicked the switch over he saw Hewison's creased, fat face projected on the screen.

Director Hewison, of United Chemicals, said:

"Lo, Max. How are things down your way?"

"Cold," Max said briefly. "Thirty-eight Centigrade. It will probably snow before Christmas. That all?"

Hewison laughed. "It is snowing up here. Snowing a blizzard. There is something, though. You know the Code?"

Max nodded. The Code of Agreement was the flexible and seldom invoked framework which provided a basis of working between the various managerial.

"Some of it."

"Section Eighty-one. The right to interrogate members of another managerial. Permission to be sought from the Director of the sector concerned in each individual case."

"Reciprocal police rights. I know."

"We don't like it," Hewison explained. "None of us like it. It's a damned nuisance altogether. So there's a clause of invocation—it's only to be used where a real danger to society exists."

Max said patiently: "All very interesting. And now?"

"Someone," Hewison said delicately, "has laid the finger on you, Max. I just wanted to put you in the picture. There's nothing to worry about. We've only given permission for interrogation. If there's any charge to be preferred there must be a U.C. official present and the charge must go through U.C. channels."

Max said drily: "Thanks. From what source am I to expect these unwelcome guests?"

"Atomics. There's absolutely nothing to worry about. We're watching everything."

"And the 'real danger to society' part. Did they explain to you precisely what that was?"

Hewison shook his head. "They don't have to. And you know what Atomics are like for keeping their mouth shut."

"Would you like to know what it is? Come closer." Hewison's bald head bobbed automatically towards the screen and then drew back foolishly. "I've been keeping a Venusian giraffe," Max told him. "Without a licence."

He switched the screen off, and Hewison's dawningly annoyed face faded out. Max picked up Matthew's letter again. He re-read the last sentence: "By the way, I've been reading Swift again. An amazing man, Max. He knew men."

There was only one visitor. He wore the green police uniform with the gleaming Atomics flame as a badge in his lapel. He was young—not more than twenty-six or seven—fair-haired, with a surface expression of diffidence that did not entirely conceal reserves of quiet assurance. When Max and he had settled down together in the lounge, he clicked on his pocket sound mirror with casual openness.

He said: "I hope we won't have to trouble you too much, Manager Larkin."

Max said: "I don't use the title. Call me Larkin—or Max if you want to be friendly."

"My name's Menigstein," the Atomics man said. "Norman Menigstein. This business, now. I won't say it's a minor matter. It isn't. But it only concerns you in a minor way. We want information about someone and we think you may be able to supply it."

Max said: "Laberro?"

Menigstein said, quietly acute: "What have you heard?"

Max shook his head. "Nothing. I'm not even being clever. I've corresponded with Laberro for some years and I don't know anyone else in Atomics." He paused. "I'm surprised you haven't had all that checked."

Menigstein said ruefully: "We always get credited with more thoroughness than we have the means for. You should see the allocation we work on. If we had had the staff to compile the kind of dossiers people think we keep, I might not be on this job now. Yes, it's Laberro. What can you tell me?"

"As I said," Max told him, "we've corresponded for years. That is, we've written letters to each other—by hand, not wire recordings. I take it you will have laid your hands on some of those, so you know what we wrote about. We are both amateur historians and . . . students of affairs. Human affairs."

"Laberro's character," the Atomics man went on patiently, "what impression have you had?" His gaze drifted lightly but acquisitively round the room. "We're after a psychological pattern, not specific information."

"A psychological pattern? Well, he's an idealist. And my definition of an idealist is a man who has a high opinion of himself and expects the rest of the world to toe the same line. And since people inevitably fall short of any conceivable target that you set for them, you might call him a disgruntled idealist." He looked at Menigstein directly. "This is an old friend of mine I'm talking about. You can see I treat your profession with every respect."

"As a matter of fact," Menigstein said quietly, "I know Matthew myself. I've known him for a few years. That's why they gave me the job. Don't

imagine I like it, but it's important all right."

"Yes." Max pressed the bell push on the arm of his chair. "I suppose it is important when someone threatens to set off an atomic explosion that will destroy the planet."

Menigstein showed no open sign of surprise. His tall figure slumped back more idly into his chair.

He said: "You shouldn't try to confuse police officials, Max. You might as well tell me what you have heard."

"That time," Max said, "I *was* being clever." He picked the copy of *Research* up from the table and handed it to Menigstein open at Matthew's article. "Two and two make four. That's not a truth; it's tautology."

Giuseppe came in with the drinks; squat, fragile beakers with the pale yellow tinted *Lacrimae Christi di Orvieto* '61. Menigstein was reading the article in *Research* with swift absorption. He picked the glass absently from its place by its elbow and raised it to his lips. He paused, his nostrils catching the bouquet and looked across at Max, smiling.

"I heard you kept a good cellar." He examined the glass in his hand. "We ought to toast something with this kind of stuff. What about—the future of the human race?"

Max raised his glass. "Strangely enough, that is one of the things I believe in. There is one point on which you can enlighten me. A major point. Can Matthew do it?"

Menigstein tapped the magazine and nodded. "It's all here, and it's no bluff. As you say, he is an . . . amateur historian. The original van Mark headquarters were at Philadelphia; Matthew got a managership there. The old fuse building had been used for stores—anything. Nobody remembered what it was built for in the first place. Matthew had it cleared out and had the segments in the main chamber filled with U-287, just below the critical mass. He had had the screening apparatus checked beforehand; it only needs a button to be pressed now to shoot the works."

Max said: "I'm surprised he could do all that without rousing any suspicion."

Menigstein grinned wearily. "Yes, it chalks a black mark up against our internal administration, doesn't it? It's the old tag—they don't give a damn in Atomics. Nobody thought to ask why the stuff was being put there."

Max said: "And there's one other thing. Why haven't we already been atomised?"

"It's an interesting situation," Menigstein admitted. "It accounts for my being here. Shall we discuss it here, or . . .?"

On the wall a Sèvres-inlaid clock announced nineteen hundred with seven sweet tinkling chimes.

"We can make it to Philadelphia on even time," Max said. "I don't normally use stratoliners but there must always be an exception. You can tell me the details on the way there."

They dropped to the Philadelphia field at eighteen hundred forty eight. A gyro picked them up and took them to the Atomics H.Q. on the city's edge; it sideslipped down through the winter dusk to the efflorescence of lights about the characteristically lopsided Atomics pylon. On the gyrostrip Max recognised a tall man with an intent, cold face as Silvestro, the Atomics

Chief Director. He nodded dubiously to Max and turned to Menigstein: "I hope you've got a good reason for bringing a non-Atomics man in."

Menigstein's attitude was calmly insubordinate. "No more than I gave you in my telecall from Naples. This is Manager Larkin. He's a friend of Laberro's, and he has some ideas that might be useful."

It was wonderful, Max reflected, what a sharpening effect the possibility of shortly being atomised had on youthful independence. Silvestro took it without rejoinder. He walked with them off the gyrostrip.

Menigstein said: "Any developments?"

The Atomics Chief Director shook his gaunt, greying head.

"He gave us a week. That was three days ago, of course. For some mad reason of his own he wants people to *know* they're going to be blown up. Whenever we send someone to argue with him he gets back to that. The end of the world is fixed and the world must know of its end."

"A week . . ." Max began.

Silvestro glanced at him. "Kovodrene. He's got himself pepped up with it. He could go a month without sleep at a pinch. We can't touch him that way."

"No way of trapping him? A servo-operated grapnel?"

Menigstein answered that. He said thoughtfully:

"You've read his article, Max. This was van Mark's idea originally, and van Mark was a methodical planner. There's a barrier of photocells round his desk. When it's on Automatic, anything crossing the barrier is enough to send things up. And it's always on Automatic. We have to be very careful in the way we approach him."

Max said: "I see." They had reached the lift. "I think I might as well go straight down to him."

Silvestro looked at him with a discouragingly jaundiced air.

"I don't suppose it can do any harm," he said.

The control room was a bare-looking place with a large desk in the middle and a chair behind it. Just inside the door, out of range of the photoelectric barrier, another chair had been placed. Max noted with relief that it was a roomy and comfortable one.

In the chair behind the desk, Matthew Laberro was sitting. Max looked at him keenly. Friends and correspondents for many years, they had never met or even communicated on the near-substitute of the telecall. For some reason he had thought of Matthew as tall; he was astonished to find him small, smaller than his own slight build, almost dwarfish. He had a thin, deeply lined face and deep set eyes. The skin pouched up beneath them as he watched Max come into the room.

Max said: "I should introduce myself, Matthew. Max Larkin."

Laberro's mouth curved downwards into a smile.

"I've had quite a gaggle in here in the last few days," he said. His voice was soft, suspiciously gentle. "Philosophers, priests, and straightforward gentlemen who frankly admit to having an interest in the planet's continuing existence. It was a bright idea of them to get you. I take it you are Max? The fall of Nineveh?"

"Six hundred and six."

"Yes, it is Max. I won't say I'm glad to meet you. In our acquaintanceship there was no need for physical proximity. Have you decided that we



ought to meet before we . . . all . . . pass over? I'm intrigued, Max."

"No," Max said. "I never act from disinterested motives." He paused, looking at Laberro. "I'm disappointed. I thought one thing we agreed on was the folly of intervention."

"As far as intervention on a limited scale is concerned, I'm sure we do agree. But total intervention—I might say cosmic intervention—that's bound to be a different matter, isn't it?"

"It's larger, certainly," Max said. He settled comfortably into the chair. "How long have you been planning all this, Matthew?"

Laberro shrugged. "Three years. I stumbled on the old van Mark records soon after I was transferred here. To be quite honest, my first intentions were no more than speculative. I wanted to see if it were possible for one man to get away with it—to set the fuse that could wipe out human life if it were lit." He smiled. "Once that was done there seemed very little reason

for not lighting it."

Max said patiently: "I follow the earlier motives. It's the kind of joke I would have some difficulty in not playing about with myself. But it's not the kind of joke a sane man carries to its conclusion."

Laberro said: "That doesn't touch me, Max. A strong instinct for self-preservation is a necessary condition for continuing life. Any ethical code must attribute insanity to someone doing as I shall do. Tell me something, Max. Is all life a pointless joke, or is there pattern and purpose to it? If it's a joke, can it matter if it ends? And if there's pattern, must not my action be part of that pattern?"

"An excluded middle," Max pointed out. "I'm surprised at you, Matthew. What of an evolving purpose?"

"Shavia's Life Force? The atheist's excuse for going on living. I'm surprised at you, Max."

"Intellectually you can't rule it out. And his name was Shaw, not Shavia. But I think I see your difficulty. I don't suppose it would help at all to tell you that your trouble is an ingrowing arrogance?"

Laberro said: "Everyone of us who contributed to *Research* knew that we were superior to the ordinary run of the modern world. But I for one didn't realise until quite recently how great the superiority was. I didn't realise it until I had this little fuse of mine all set and it occurred to me, going about my ordinary duties, how easily I could just draw a line under man's career and write a large red STOP. I started observing more closely. I looked in on the telescreens; a thing I had always avoided doing before. Look."

The ubiquitous telescreen occupied a large section of the wall on Laberro's left and Max's right. Laberro pressed one of the buttons on his desk and the screen blurred into action. A row of well-formed girls wearing silk tights and gold shoes performed a high-stepping jig in time to raucous and singularly tasteless music. The camera followed them intimately; very intimately.

"Philadelphia," Laberro said. "Now Hollywood."

The announcer said: "We bring you—Culture Hour. The great music of the past. And first, in response to many requests, that masterpiece of two centuries ago: Gershwin's 'Rhapsody in Blue'."

The camera flitted about the orchestra, particularly in the luscious, sawing string section.

"London," Laberro announced.

Vague forms ran and slipped about in a sea of fog resting on a sea of mist. Around them there were glimpses of banked crowds, shouting massly. The commentator was barking hoarsely: "Rees-Williams has it, passes to Jones—no, is it Edwards?—no, Jones. A lovely pass. A beautiful pass. Oh, he's lost it. I think he's lost it. Yes, it's a scrum again. This is a *magnificent* game!"

"Delhi," said Laberro.

A quiz contest this time. He switched the screen off.

"That's a random selection," he told Max. "That's the second half of the twenty-second century. Go on, defend it. I'm waiting."

Max said mildly: "I wouldn't dream of defending it. But you? Do you feel so strongly about it that you are justified in wiping it all out?"

"Justification," Laberro said, "is only for the uncertain. I have no doubts.

I can do it, and what I can do is its own justification."

"Children?" Max asked. "Animals?"

"You'll get no thalamic reactions from me. Sentiment is stupidity. Children become men. Animals die continually, in varying states of pain. A universal quietus is the same whether it comes at one instant of time or sporadically over a century."

"Yourself, then," Max said. "You are resigned to that too?"

Laberro said slowly: "Every man that dies—every creature—takes an entire universe with it. But a subjective universe. I shall take an objective world, a billion billion universes with me. Can you believe that I am actively looking forward to the moment when I shall press this particular button?"

Laberro's finger hovered above the small green disc on his control panel. "Yes," Max said. "I can believe it." He paused. "You want the world to know what is going to happen?" Why—simple sadism?"

Laberro said gravely: "No. I want them to be warned. It's unfair, somehow, that they should not be warned."

Max nodded comprehendingly.

"The telescreen," he said. "It's on a telecall circuit as well?"

Laberro said: "Yes. Why?"

"Put us on a two-way to Silvestro's office, then."

Laberro looked at him oddly for a moment. He said at last:

"If you like."

They saw Silvestro's office. Silvestro himself was sitting down, with Menigstein standing beside him.

Silvestro said: "Well?"

"Formal report," Max said. "I confirm previous findings that Manager Laberro is quite determined to carry his project through. We may take it that the explosion will occur as planned. I suggest that emergency arrangements to evacuate as many as possible to Mars and Venus go into operation straight away. I suggest also that the world should be told what is going to happen."

Silvestro bowed his gaunt, grey head.

"Agreed." He looked directly at Laberro. "You confirm that we still have three days?"

"My intention," Laberro said, "doesn't change in any particular. You have three days."

"You won't settle for a world dictatorship?"

"I'm not a fool. The moment I leave this control board my power is gone. You'd better tell them."

The screen went blank, but Max still sat, facing Laberro, in the armchair.

Laberro said: "You might as well go now, Max. You'll have your own affairs to attend to."

Max said: "Attending to affairs presupposes a world continuing afterwards. If we've got three days I don't see any reason to spend them running about. I'm happy enough here."

"I wonder," Laberro said curiously. "Will they rush this place, do you think? Will their blind fury precipitate matters?" He hesitated. "Silvestro couldn't be bluffing me . . .?"

Max said nothing, but his eyes travelled to the telescreen.

Laberro nodded. "Yes, that's the answer to that."

He switched on to Philadelphia. The announcer was speaking, against the blank, blue screen preserved for momentous occasions. He explained what had happened and what was going to happen in even, measured tones. There was a fair chance that Mars and Venus would escape with no more than climatic disturbances and as many as possible would be got away to those planets by a full space lift. Evacuees would have to be young, fit, intelligent—they would be chosen by District Managers.

"... What do you think?" Laberro said. "They'll graft it to hell. And those left behind will storm the spaceports."

To guard against remote contingencies, a mixed party would be got off in the new stellar-equipped vessel and would head for Centauri should the solar system become entirely uninhabitable. For the rest, there was nothing to do but wait. There were churches. Essential services, of course, should be maintained to the last.

Laberro laughed. "That's a joke!"

Max said: "You aren't quite succeeding, are you? Some will survive on the other planets. Man—the race—remains. And even may go on to other solar systems."

Laberro said indifferently: "That doesn't matter. At least they will have to start from the beginning again—to work like slaves to defeat a hostile environment. I wonder if they will be able to do it. You were on Venus. What do you think will happen there?"

"Without the home planet to draw on? I think the odds are about three to one on men dying out, or degenerating below the level of the natives."

"That's my own view," Laberro said. "If they can win out, good luck to them. But I don't think they will." He paused. "I suppose Silvestro hasn't got any idea that I might relent at the last moment? I shan't. If the telescreen still works, I shall derive no small amusement from watching the ants scurry round on their ant-hill."

Max yawned. "Three days is a long time," he said. "I think I'll take a nap."

He was awakened from his nap by the voice of a telecommentator. Laberro was watching the screen. It showed the foyer at the New Haven spaceport; a long line of young men and women patiently waiting their turn to pass through to the waiting ships. Occasionally the scene switched to show one of the ships departing; lifting on its springs of smoke and flame into the hopeful sky. The commentator spoke briefly and factually of what was taking place. The long lines shuffled forward. The camera flicked from them to take in the crowd of other men and women who stood calmly and silently watching the chosen ones in their slow trek towards the ships.

Laberro switched over to another station. This was a roving camera programme also; apparently all stations had gone over to factual reporting at this time of crisis. This showed a religious service; the thousand-year-old music, the patient and even older ritual. The faces of people in the church were serious and preoccupied.

On the third station Laberro tried they were covering the Waizman Museum. It was crowded now with people who moved slowly from one exhibit to the next, taking their farewells of antique beauties—vases from

Attica, Roman mosaics, fragile Japanese paintings. The camera focused on the Winged Victory of Samothrace, twice buried and twice dug up, the second time from the ruins of Paris. Its battered, gracious contours swam up to fill the screen.

Max closed his eyes again, and settled more deeply into his chair.

He allowed himself to doze, waking at intervals to see Laberro still gazing at the telescreen which went on reflecting facet after facet of the planet's preparation for its end. The mounting tempo of the evacuation . . . the churches overflowing with quiet and serious worshippers . . . people on essential services carrying on calmly with their usual tasks . . . a world paying unhurried reverence to the treasures of its own past . . . scores of scenes, but all impregnated with the same combination of resignation and inspired purpose. Laberro watched. Max, between catnaps, watched Laberro.

One scene, some eighteen hours after the announcement, was particularly impressive. In among the Californian giant redwoods the camera darted to follow a family: a man, a woman, a boy about seven and a girl about five. They strayed between the aisles of these giant trees, pygmies lost in a titanic forest. And yet strangely impressive pygmies. The little girl jumped on a jutting root of one of the trees and stood there. The gyro-sited camera leaped up for a high-angled view of her, far down, golden-headed, beside the ancient king of the forests. Laberro switched to another station quickly; too quickly.

Max, watching him, calculated the chances. Sitting there, he had nothing to think about but Laberro and the power poised under Laberro's hand. He could see now that his guess had been right—that his aim was possible of achievement. But in this realisation he became aware of the way it could go wrong also. Laberro would not stand three days of this. But, rushed into an earlier mental crisis, might his pride drive him the other way, precipitating him into the irreversible action of depressing the small green button? Everything depended on the essential stability of Laberro's mind. It was not a cheerful thought with which to while away the waiting hours.

He saw the strain continuing to gather in Laberro's face; an indication of the conflict in the mind behind it. He watched, trying to anticipate the breaking point. It came, at an irrelevant moment. London, late on the second day, was letting its camera drift through some of its ancient byways. It stopped in a statuary's yard. A man was carving, chipping pieces of wood away with careful, fractionally gauged strokes. It was a job which must require weeks or months for completion.

Laberro rose to his feet. His right hand hovered, hesitating, above the green button. Then, with a cry, he pulled back the main power switch and stumbled forward into Max's waiting arms.

In his office Silvestro said: "Good work, Larkin."

Laberro was muttering brokenly: "You must tell them. You must tell them straight away. They must know at once. Those wonderful people . . . They must know."

Max would have broken it by degrees. Silvestro said:

"Get hold of yourself, Laberro. There's nothing to tell."

"That everything's all right!" Laberro said. "You must tell them that."

Silvestro said to Menigstein: "Put Philadelphia on."

It might have been the same vaudeville show. The female legs and breasts pranced across the stage to the same cacophony. Laberro shook his head, dazed.

"I don't understand."

"Larkin's idea," Silvestro said smugly.

Max said quietly: "They never were told, Matthew. They never would have been told."

Laberro said: "But the telecasts . . . ! The churches—the museums—the girl in the forest . . . I don't understand."

His eyes went from one to the other of them, like a worried dog's.

"It was all stages," Max explained patiently. "You were so sure we could not reach you at your desk. And we couldn't, of course. But the telescreen was outside your barrier. That could be tampered with. Your controls took you on to half a dozen fake stations Telecommunications rigged up specially for us. All the scenes were acted, Matthew."

Silvestro said: "Tele did a damned fine job. It'll be a long time before I bitch at Saguki again."

Laberro said bewilderedly: "But why?"

"I'm afraid," Max said, "essentially because we could not trust the human race to take its end with the dignity Saguki's actors were able to muster. *Ars melior vita*. And it was essential to make that point to you."

"In other words, to lie," Laberro said dully.

"Is a poem a lie?" Max asked. "We gave you a new point of view. Your earlier one was a trifle biased, you know. And man does have some good points, even managerial man. He isn't vindictive, for instance. We've arranged about your future, Matthew. You're being transferred to another job. A menial one, but I think you might find some attractions in it. You're to join the research station Lignin ran—in the Californian redwood forest. Your future there is your own."

He went out with Silvestro, still incredulous but looking as though he might be on the verge of waking from a bad dream. Menigstein and Max watched them go.

Menigstein said: "Another good mark for Manager Larkin!"

Max pulled a face. "And for Official Menigstein."

Menigstein grinned. "I'm demoted. Back on personnel research. Set two years' promotion."

Max said: "Go on."

"I checked the Director. Insolence of manner. Remember?"

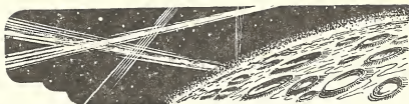
Max looked at him a moment. "Managerial man," he said, "is not vindictive. Does it bother you, Norman?"

"It's my personal triumph," Menigstein said. "I'm leaving. I'm shaking the dust of Atomics from off my shoes."

Max looked at him enquiringly.

"I'm going with Laberro," Menigstein said, "to watch the redwoods growing in California. It's a job for life."

They sat on the edge of Silvestro's ornate desk, their arms about each other's shoulders, and laughed together until the tears flowed.



HIDEAWAY

By PETER HAWKINS

Spaceflight will eventually produce robot beacons in space as radio guides. A fault in one would have to be remedied by a repair crew—in this case, the robot had a lot more to say in the matter.

Illustrated by HUNTER

Murphy's eyes followed the luminescent dot representing the *Scavenger* across the gridded screen towards the red spot indicating Epsilon II. As the ship drew nearer the beacon Murphy lifted a headphone from the locator desk and placed it to his ear, listening to the steady stream of dits and dahs radiating from the beacon's transmitter.

"We're half a mile off, sir," reported the locatorman. "Shall I switch in the viscreen?"

"Yes," replied Murphy, replacing the phone on the desk. He raised his eyes to Hayter, leaning with arms folded on the metal top of the screen.

"Do you still think the same?" he asked.

"Yes, I do. It's slipped through the Folds. I don't know how or why . . ."

"But a Thinker beacon with a built-in aversion to getting caught in the Folds, and a strong bloc even to thinking about them except as something to be reported on and avoided just shouldn't have gone through."

"Exactly," grinned Hayter. "It shouldn't have done." He pushed himself away from the screen, allowing his arms to fall to his sides.

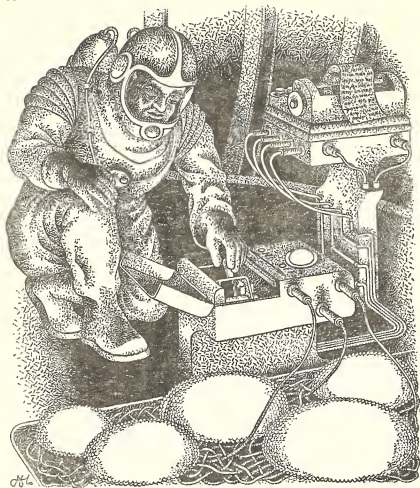
"Anything on the viscreen?"

"Nothing."

"Nor any sign of the *Quest*?"

"No." Murphy paused. "I'm more worried about her than the beacon. If Epsilon II is transmitting it can't be all that much out of gear, but to hear nothing from the service ship except the report it had located the beacon is mysterious. The silence, and the two interruptions in transmission make me think . . ."

"What?" queried Hayter. "The *Quest* could have gone through the Folds after the skipper decided he could get at the beacon no other way and blown her radio gear on account of the electronic disturbances set up



by the Folds . . .”

“They’ve got spares enough to make two radio sets to replace the one any disturbance smashed.” He glanced at the screen. “I can remember the one and only occasion a Thinker went wrong. It was before your time, but you’ve heard about it . . .”

“Yes, and on Pluto there were the best materials on hand for an unstable machine. The trainer was proved shortly afterwards to have been abnormal in some respects. A Thinker can only act and build upon the foundation of basic knowledge fed into it, and if this Thinker has been given stuff from the wrong angle it’s taken a long time to show up . . .”

Murphy picked up the headphone and listened to the string of notes trickling from the diaphragm.

“Still operating,” he observed, glancing at the viscreen.

“You know what we’re going to do, Hayter? We’re going through the

Folds, as the beacon did—and the *Quest*.”

“We shan’t be the first to go through Folds,” observed Hayter slowly, “but it’ll be a tricky business as none of the crew, or either of us, has been through. Is it wise?”

Murphy felt the impossibility of answering Hayter’s question with any degree of truth. It was neither a wise nor an altogether agreeable decision to make, but Murphy considered it his responsibility rather than his job to find the beacon and locate the *Quest*.

“Look at it this way,” he hedged. “The beacon is faulty and the fault must be remedied, otherwise a lot of ships may home on a dud navigational aid. That’s half the reason we’re here. The other half is to find the *Quest*. So I can see no alternative to going through the Folds as the beacon gives every indication of having preceded us. I know I was told not to stick out my neck for the Admiralty, and I wouldn’t normally, but there may be a lot of lives dependent . . .”

Hayter chuckled softly.

“You’ve got your back to the wall, haven’t you? It’s a horrible mixture of duty and conscience which keeps you working . . .”

“You’ve told me that often enough,” laughed Murphy, picking up the headphone and listening again to the beacon’s steady signal. He walked over to the navigation table, studying the ship’s course over the last three days’ search for Epsilon II. The thin blue line curled back over itself like a loose skein of wool, with the ever-changing frontier of the Folds foaming irregularly near it, a grey discoloration in the transparent plastic block.

“Doland!” He beckoned his second-in-command over from the far corner of the table. “Make for the nearest point of the Folds. Having got there, get beyond the Folds.”

With a final glance at the course block he returned to his cabin to spend the remaining time catching up on paper work before the jump through the Folds. As he walked along the corridor he likened the Folds to the currents in the oceans of worlds; phenomena which trapped a ship almost before a skipper knew of their existence, and once trapped, a difficult influence to shake off.

In disgust he sat down at his desk and pulled out the massive file of the operation so far. He had hardly begun to consolidate the last two days’ reports and observations when the viscreen buzzed for attention.

Doland’s face appeared out of the haze of dots and lines.

“Trouble?” queried Murphy.

“No, sir. A movement of the Folds has taken place towards us. We can reach it in half an hour’s flight. It seems to be tenuous and there’s no sign of eddies.”

“Good. Make for it and have all hands prepare shock cushions at their posts.”

“Shock cushions at posts,” acknowledged Doland.

Immediately Murphy broke the connection and dialled Hayter’s number. The doctor’s quizzical smile greeted him.

“We go through the Folds in half an hour. Use shock cushions.”

“Control room?”

Murphy nodded and switched off his screen, looking at his watch. He

glanced at the file on his desk. He couldn't do much in half an hour. Gratefully he shoved the papers into their buff folder and replaced them in the drawer. He pulled the shock cushion from the wall bracket, charged and tested it. Tucking it beneath his arm like an overgrown football he walked to the control room, carefully pegging the shock cushion on the floor near the locator desk and stretching it until it was a comfortable size for his body. Hayter followed him in a few seconds later and pegged out his cushion alongside.

A bell rang. Murphy glanced at the wall clock. Five minutes left. Hayter flopped down on his cushion, clasping his hands behind his head. Murphy glanced round to ensure the control room crew were settled before he laid himself down beside Hayter. He fixed his gaze on the advancing hands of the clock.

At the second precisely nothing happened. A minute passed with no unusual occurrence. Quite suddenly the clock on the wall seemed to curl up and straighten itself; the far end of the control room dipped away into nothingness. Murphy's stomach wandered from its moorings and floated up against his heart; his lungs seemed deflated. Gasping for breath, he waited for the distortions to cease, mildly surprised when suddenly not the slightest sign of abnormality remained.

"Easy passage," he gasped to Hayter.

"I'm glad you think so. I feel as if my spine has been pushed through my body and back a different way."

Ignoring Hayter's remarks Murphy raised himself from his shock cushion to see how many of the crew had recovered from the effects of the passage.

"Locatorman," he called. "Are you fit?"

"Fit, sir," came the acknowledgment.

As the reply came several other members of the crew began to move. Hayter had risen and was unpegging his shock cushion.

The locatorman had resumed his position in front of the screen and had tested his set. He glanced up as Murphy's shadow fell across his desk.

"No sign of anything yet."

Murphy nodded and picked up the headphone. The beacon was still transmitting.

"Let's have the viscreen," he ordered.

The screen flickered grey and white for a second before turning into a black window on space with a powdering of stars in the top left-hand corner. It looked no different from ordinary space on the normal side of the Folds.

"So that's what the inside of a pocket looks like," murmured Hayter. "Just the same as ordinary space, but rather cussed to enter and perhaps impossible to leave. Any sign of the beacon yet?"

"No. It's still alive." Murphy handed the headphone to Hayter.

The locatorman's free hand grabbed Murphy's arm.

"Top left; amongst the web pattern the stars make. I'll see if I can bring it in."

Expertly he juggled his locator controls until the red dot of the beacon stood in the centre square of the grid, switching on his desk mike to speak rapid words of direction to navigation.

In response to his rapid manipulations of the controls a few fine lines

appeared on the viscreen, shifting across as he sighted the viscreen projector through the locator mechanism. The beacon edged into the viscreen, looking about the same size and shape as an orange, a dull blob of featureless metal slowly revolving on its axis. The grid vanished from the viscreen.

"Yes," breathed Murphy. "It's found. Now we've got to start work. "There's . . . Ahhh!"

His sudden exclamation caused heads throughout the control room to turn towards him.

"Look!" His fingers jabbed at the screen. "The *Quest*!"

He picked up the intercom and dialled the wireless shack. In reply to the operator's question he snapped:

"We've sighted the *Quest*. Transmit and wait for an answer every two minutes." Smiling he replaced the receiver.

"Take another look at the *Quest* as she comes round," suggested Hayter. "Look carefully."

Impatiently Murphy waited for the ship to reappear from behind Epsilon II, while the locatorman adjusted the controls to bring the beacon into better focus.

At last the *Quest* projected her nose beyond the bulk of the beacon. Slowly, turning end over end, she revolved around the beacon's equator. In two minutes, during which not a word was spoken, she vanished from sight.

"No lights," muttered Murphy. "That means no power . . ."

"That's why there's been no answer to any signals," interposed Hayter. "All power was stripped from them going through the Folds. I'll get things ready in case there's anyone left alive."

Anxiously Murphy waited for the *Quest* to reappear. She trundled into view, an elongated orange-pip revolving about the parent fruit. There were no lights; not the slightest suspicion of a glow illumined the dark surface. Without a hope Murphy picked up the intercom and called the wireless operator.

"Has there been anything from the *Quest*?" he asked.

"No reply."

Once more he held the headphone to his ear. Monotonously, almost insanely to anything but a navigational aid, the dits and dahs trickled out of the diaphragm and impinged on his ear. Replacing the phone on the desk he walked back to his cabin, on his way out ordering navigation to bring the *Scavenger* within half a mile of the two vessels.

Moodily Murphy clambered into his space suit, calling Hayter at the sick bay when he had donned most of the armour.

"Meet me by number two airlock in ten minutes, will you? Have a couple of men with you who know a lot of first aid. We may need them."

Hayter acknowledged and Murphy switched off the viscreen, and proceeded to test his suit. For a few moments he paced up and down the short length of the cabin, reflecting the job promised to be irksome. Admiralty regulations would have to be observed strictly throughout the whole operation.

He opened the sliding door into the corridor and stalked towards number two airlock. Hayter was waiting for him with two of the crew, garbed for space. Rapidly they tested their radio communication with each other and

with the switchboard, leaving all four circuits open in order to talk.

Murphy led them through the airlock, jumping into space and watching the others arrange themselves at the regulation distance of twenty-five yards.

"We'll make for the *Quest* first of all," he said. "Keep in a straight line as we are now." He glanced at the clock set in the front of his space helmet. "Fire at thirty-five."

He moved up the firing switch and looked to his left, satisfied at seeing three orange plumes of light trailing back towards the *Scavenger*.

The *Quest* grew rapidly larger, still disclosing no indications of life. Murphy landed on the hull a few feet from the forward airlock. He examined the locking device; it seemed in order. He pressed the switch firmly, expecting it to produce no result. To his surprise the outer door slid back.

"Residual power in the batteries," he observed.

The failure of the lights to illuminate the airlock confirmed his hypothesis. He switched on his headlight, carefully swinging the beam round the chamber, lined as was the *Scavenger's*, with salvage gear.

"No gravity," he remarked.

He moved towards the inner door, his headlight picking out the manual controls. Exerting all his strength he pulled open the door a couple of feet and squeezed through.

"Come on," he called.

The corridor was in complete darkness. Murphy's headlight swivelled round until he found a direction plaque indicating the way to the control room. Slowly he floated along the corridor, propelling himself with a gentle push of his hand against the wall. Turning a sharp corner he drew in a deep breath, trying to halt his forward movement.

He dropped to his knees, endeavouring not to touch the two space-suited bodies hanging about a foot above the floor. Hayter closed up to him, studying the distorted faces beneath the transparent helmets.

"Can't tell," he muttered. "Looks as though it was a violent movement; threw them there and crushed them against the walls of their suits. Little blood at nostrils, ears and mouth gives the indication there are extensive internal injuries . . ." He paused, feeling in one of his exterior pouches and producing a box of matches. Solemnly he scratched one against the side of the box. It lighted, burning with a quiet steady flame until it reached Hayter's metal-clad fingers.

"Should have done that earlier. Don't risk taking off your helmets, though." He glanced at Murphy for orders.

"Let's get to the control room." For three more minutes they floated through the unlighted corridors, arriving at the control room by projecting themselves up a companionway. Four bodies floated at about waist height in the small, instrument-littered room.

Murphy sighed.

"See if . . ." He broke off. "Who spoke then?" he snapped.

"One of them's alive," rapped Hayter. Hurriedly he looked at the faces of the still forms, unable to decide which had gasped.

Murphy called the *Scavenger's* switchboard.

"Hello *Scavenger*, Prepare to take all six men of the *Quest* aboard. At least one of them is alive. Have as many men as possible on hand to help; we're returning immediately."

Anxiously Murphy switched back to local.

"Any more alive?" he asked.

"Two altogether. They're both in a bit of a mess. Possible internal injuries . . ."

"Get back to ship; I'll arrange for them to be brought across."

Hayter waved his gloved hand and floated off towards the airlock. Carefully Murphy and his assistants propelled the bodies to the airlock, roping them together and gently easing them out in a long string behind them towards the *Scavenger*.

Murphy retired to his cabin after seeing the six battered space-suits and their pitiful contents taken into the sick bay, to record while they were still fresh in his memory the events leading up to the discovery of the men. He had barely switched off his dictaphone when the viscreen buzzed for his attention. Eagerly he switched it on, hoping for a report from Hayter. He was disappointed; Doland's face filled the screen.

"I've got a peculiar film I'd like you to see, sir. Could I bring it down to you straight away?"

Murphy hesitated. Hayter might want him . . . his mind dismissed the possibility as being unlikely yet.

"I'll see it now. What's it about?"

"I'd like you to form your own opinion, sir."

Within five minutes Doland walked into Murphy's cabin, carrying a portable projector and a small can of film.

"It's not tri-di, I'm afraid. It was just lucky one of the men had his camera ready and filmed the sequence."

"Has it anything to do with the present situation?"

"It must have," replied Doland definitely. "We're two light years away from the nearest occupied world—and Pluto's on the far side of the System at present. I don't know the exact position of Neptune . . ."

"Let's see the film," suggested Murphy.

Doland handed him the plug for the projector and set the instrument on the table. Murphy waited impatiently while Doland inserted the film. At last he nodded to Murphy to switch out the light. For a moment or two Doland adjusted the focusing; a picture of star-dotted blackness appeared on the wall of the cabin, in the centre of which floated a golden ovoid. Only by the almost imperceptible movement of the distant stars was it possible to judge the rate of the ovoid's motion.

"You can't get any good idea of the size of the thing," said Doland, "but it's about six feet long."

"Did you see it?"

"Yes."

"What is it?"

"We've no idea, sir." His hand waved towards the picture. "Just at this point the ovoid curved downwards and landed on the hull. The man lost it for a few seconds because of the unsuspected movement."

The ovoid obediently darted out of the picture, reappearing with the hull of the *Scavenger* clearly visible. Slowly it settled towards the ship, apparently perfectly under control. It touched down gently, remaining quiescent for a few moments before a panel on the upper surface slid back, allowing a single

metallic hand to appear. Carefully the hand, at the end of a telescopic rod, deposited a momentarily glittering object on the *Scavenger's* hull.

In a moment the hand disappeared inside the ovoid, the panel slipped into place, and faster than the camera could follow it, the ovoid disappeared from view.

"Where did it go?" asked Murphy after a moment of utter silence.

"Behind the beacon. We've had locators after it but haven't found anything so far. They're still looking."

"What did it leave on the hull?"

Doland pulled a folded-up handkerchief from his pocket. Carefully he unwrapped it, disclosing a tiny replica of a surgeon's saw. Murphy took it out of Doland's hand, examining it closely by the light of the projector.

"It seems perfect in every detail," he observed. "I'll get Hayter to have a good look at it when he's finished. Who took the film?"

"Burrows, sir."

"Ask him if he'd mind me retaining this for a while. I'd like to inspect it again. Thanks for bringing it along."

The second-in-command left, the door hardly closed behind him as Murphy picked out the sick bay number on the viscreen dial.

"Is Doc Hayter too busy to speak to me?" he asked the white-masked face which appeared in answer to his call.

"I'll see, sir."

In reply Hayter came to the screen.

"Any results yet?"

Hayter shook his head.

"Nothing concrete. There are two still alive, and they'll mend in time. They're Ellers, the robopsychologist who was going to look at the Thinker, and Blackwell, the *Quest's* captain. Ellers has talked a lot in delirium. He's screaming about a 'golden thought' and reckons the Thinker's insane. I think he's not so far from insanity himself if he talks like that . . ."

"I don't know so much," interrupted Murphy. "How long will it be before you're free?"

Hayter's eyes lowered to look at the clock on the viscreen panel.

"At least two hours. I don't want to leave Ellers if I can help it. Besides there's a lot of investigation to be done on the other four. Those two we found in the corridor are in a shocking mess . . ."

"What are Ellers and Blackwell suffering from? Claustrophobia through being too long in their suits?"

"Yes. Ellers has something more than that. The 'golden thought' he keeps babbling about . . . you said you weren't so sure a moment ago. What did you mean?"

"Does Ellers' 'golden thought' fly through space?"

"Yes," Hayter frowned. "How did you know?"

"I've got photographs of it. Look, you're pretty certain Ellers is correct when he says the Thinker is insane?"

"Positive."

"Right. I'm going over to the beacon to disconnect it."

"Ellers said he disconnected it . . ."

"He can't have done. The beacon's still transmitting, isn't it?"

"Yes," admitted Hayter grudgingly. "Let me see this photo of the 'golden thought' . . ."

"I'm going over to do the dismantling now. I'll get the projector brought along to you. You can examine it if you get time."

Hayter acknowledged Murphy's suggestion and switched off. With a glance at his watch Murphy dialled Doland and told him to take command; briefly he silenced Doland's protest about his going unescorted and made for the airlock after climbing grimly into his recently discarded suit.

He tested the radio, telling the switchboard to inform the Admiralty it was essential that the beacon be disconnected and to broadcast a general message of his intentions. In addition, ships were to ignore any signals which appeared to come from the beacon, and were to home on other signals.

Expertly Murphy pushed himself into space, the jet fixed to his back carving an arc of orange fire behind him out of the blackness of space. On his left hung a distant tracery of stars, visible only as a faint wash of light on a board of utter blackness; to his right the main mass of the Milky Way swept majestically across the heavens, a splendid sun-jewelled sword poised above the few near stars man had reached so far.

Murphy followed the orbit of the *Quest*, a hundred yards behind her, closely watching the surface of the beacon for the entrance. It hove into sight, a knife-edge thin circle on the beacon's metal hide. He darted towards it, landing alongside the lock. Carefully he manipulated the elementary combination, feeling the door slide away beneath his feet. He stepped into the dark interior, waiting for the door to close behind him and the lights to go up.

Nodding his satisfaction as the occasional fluorescents flickered alive in the low ceiling, he propelled himself along the passageways to the control dome. Directional arrows on the walls led him straight to the Thinker, set in a plastic bubble from which the rest of the huge interior of the sphere was visible. Distant filaments reflected gleams of light like miniature stars from the struts and supports holding the machines and subsidiary calculators in place.

For the most part the sphere was empty, only the walls being lined with equipment and recording gear. Murphy turned his back on the cavernous, dimly-lit space and switched on the lights around the edge of the tank-like depression in which the Thinker rested. Literally myriads of tiny tubes, none larger than a pinhead, each glowing a soft yellow and arranged in globular clusters, rested on a delicate framework in the tank. Murphy edged round to the teleprinter attachment and clumsily tapped out with his space-gloved fingers the three standard test questions. Rapidly and accurately the machine answered them. He followed with a few questions of his own devising; those, to the best of his knowledge, the machine answered correctly too.

For a moment he hesitated, uncertain whether to call Hayter and ask if Ellers had said anything further in his delirium. He recalled Hayter's certainty of Ellers' notion the machine was insane. He walked to the opposite side of the tank, glancing at the clusters of tubes, looking incredibly like a bed of unearthly flowers, his gaze finally travelling to a small black box projecting from the rim. A small green light, which seemed like a tiny, appreh-

hensive eye, appreciative of his powers, appeared to follow his movements.

Murphy slipped up the lid, disclosing a small switch with the two simplest of positions. Feeling uncannily like a murderer he pushed the little switch to "off." The bed of unearthly flowers withered immediately into a mass of dark glass and metal, not a trace of their former loveliness remaining. The teleprinter ejaculated a few brief letters, almost in protest it seemed, against life being snatched away from it so arbitrarily.

For a moment Murphy gazed at the lifeless mass, noting the time he had cut off the Thinker. Steadily, repressing an impulse to run out of the beacon as quickly as possible, he headed sedately for open space.

Impatiently he manipulated the airlock controls of the *Scavenger*, loosening the fasteners on his helmet before full pressure had been reached. He squeezed through into the ship as soon as there was sufficient room for him to pass between the doors, pulled the helmet from his head and tucked the globe beneath his arm. Awkwardly he dialled Hayter's number.

An orderly's face appeared on the screen.

"Anything happened?" asked Murphy.

"Nothing to cause alarm, sir."

"Tell Doc. Hayter I'll be down to see him as soon as I get my suit off."

"Yes, sir," acknowledged the orderly. The screen blanked out.

Murphy reached his cabin, removing his suit in a few moments, half-conscious his fingers had been working on the fastenings while he walked from the airlock. Momentarily he thought of the buff folder in a drawer of his desk which so badly needed attention. With some misgivings he realised the increasing amount of time he would have to devote to it in the near future before pushing ideas out of his mind altogether and heading towards the sick bay.

Hayter got up from his little desk just inside the door as Murphy entered.

"Have you dismantled it?" he asked.

"Yes."

"Any trouble?"

"None. What about Blackwell and Ellers?"

"Progressing as well as can be expected. Blackwell responded to treatment and he'll be able to tell us his story before long. Ellers I'm doubtful about; we might have got something out of him if he'd been as easy as Blackwell."

"Have you looked at the film yet?"

Hayter nodded.

"I don't profess to understand it." He paused, a frown creasing his forehead. "There's a possible connection between the golden ovoid and the Thinker, but it's a bit far-fetched." He looked enquiringly at Murphy.

"Carry on," he encouraged.

"The man who started training this Thinker was called Polston. He was killed in a gyro crash not long after he'd started the job. He was a big fellow, always full of the joys of life and he enjoyed nothing better than an impossible problem. He started his career as a surgeon, before turning to psychology and Thinkers. His favourite phrase was: 'If it's tough, old boy, saw through it.'" Hayter paused, hand disappearing into the pocket of his jacket.

"This, as you surmised to Doland, is the perfect replica of a surgical saw on a small scale." Hayter's frown deepened. "The idea's crazy, isn't it?"

he asked hopefully.

Murphy made no reply for a few moments. "It seems peculiar," he admitted. "Where did you get the information about Polston?"

"Ellers talked about him in his delirium. I searched our records and found a few titbits about him."

"When can I chat with Blackwell?"

Hayter glanced at his watch.

"Now, but if you excite him I'll have to throw you out."

He led Murphy into the sick bay itself. Two of the four beds were occupied. Ellers lay in the one nearest the door, a white ghost of a man with long, thin hands twitching on the sheets. Blackwell was opposite him, propped up in bed, a strained look tensing his pale face.

"How are you feeling?" asked Murphy.

"Not too bad, considering . . ."

Murphy nodded understandingly.

"What caused the crash?"

Blackwell laughed bitterly.

"It was simple. Ellers wanted to deactivate the Thinker as soon as possible. He'd been aboard once and analysed some results. There was a warp folding rapidly towards us. Ellers said he'd got to go, so he went and he'd just got back to the control room when the Fold hit us. It drained away most of our power; we were unable to replace it, so we just waited and hoped." He paused, lips quivering. "Ellers and I are the only survivors, aren't we?"

"Yes."

Blackwell exhaled deeply. He glanced at Hayter.

"Did the others suffer—very much?"

"No," lied Hayter expertly.

"Why didn't you enlist the aid of the Thinker and the machinery in the beacon to help you replace the power?"

"We could hardly move. The doc. knows what our injuries are like. Besides, Ellers had deactivated the Thinker and said it would be better for us to die than reactivate it."

Murphy felt a little shiver at the base of his spine. He was conscious his voice was too smooth when he asked his next question.

"So Ellers deactivated it?"

"Yes. He . . . why?" asked Blackwell. "Is anything . . ."

Hayter grasped his hand. "Steady," he murmured to the Captain. Blackwell's faded eyes turned towards him. Murphy sighed with relief.

"We just wanted to be certain what he'd done," said Murphy. "I'll be along to see you in another few hours. Come along, Hayter, I want you to inspect the for'ard air conditioning plant," he added briskly.

The door sealed off the sick bay from Murphy and Hayter.

"So Ellers deactivated it," said Murphy. "That was the second stoppage of transmission. I've just deactivated it, so in between times something—I reckon the golden ovoid—switched it on."

"Yes, but why?" queried Hayter.

"I don't know."

He walked over to Hayter's viscreen and dialled the wireless shack.

"Pick me up the beacon signal and pipe it down to me when you get it.

"I'll be in the sick bay." He snapped off the connection.

"Who carried on the machine's training when Polston was killed?"

"A fellow called Somers. He was unlike Polston in that he could cure other people's troubles but not his own. He wasn't in Polston's class, but he was a sound worker nonetheless. Always had a grouch against the world for some reason."

"I see."

The viscreen buzzed; Murphy switched on. The wireless operator said: "Here it is, sir."

A stream of dits and dahs trickled from the speaker.

"Thanks," acknowledged Murphy, switching off.

"So it's been reactivated again." Murphy felt his teeth gnawing at his upper lip. "Hayter," he continued, "can you leave Ellers and Blackwell for a time?"

"I think so. Blackwell is merely weak now; Ellers I can do nothing with until some dope I've given him has worn off a bit."

"I'd like you to come over to Epsilon II with me and investigate."

"I'll get changed. Number two airlock in ten minutes?"

"That'll do fine."

Hayter was waiting for Murphy at the airlock when he arrived; they tested radios and opened the airlock, darting across the stretch of emptiness towards Epsilon II. The *Quest* hove into view almost beneath their feet; hurriedly they propelled themselves upwards, circling until the airlock appeared.

Dropping to the surface, Murphy opened the way into the beacon, Hayter following closely at his heels. The lights flickered overhead as they made their way through the narrow passageways to the inner skin of the beacon guided by the directional arrows on the walls.

Entering the transparent plastic bubble housing the Thinker Murphy made straight for the tank. The tiny bed of unearthly flowers glowed anew with soft yellow light; the green eye beside the activator switch stared steadily, almost defiantly, at them.

While Hayter gazed into the illuminated tank Murphy called up the *Scavenger*, instructing two men to come to the beacon with a tripswitch and a transmitter.

Once more he tapped out the questions on the teleprinter, the answers ripping back to him as rapidly and as accurately as previously.

"Want to ask it a question?" he asked Hayter.

The doctor shook his head.

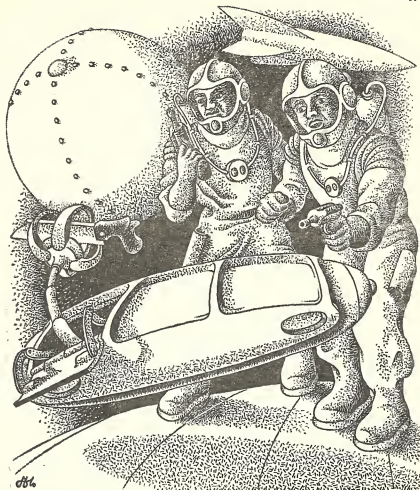
"There's a lot I'd like to ask it, but I don't think it's wise. Any machine which has been reactivated is not necessarily reliable. Nothing this size has ever been switched on and off before, but in similar circumstances smaller Thinkers are distinctly unreliable."

"Perhaps you're right," admitted Murphy. Coolly he stretched out his hand and pushed the little switch to "off." Once more the teleprinter spluttered a few meaningless letters in protest as the yellow glow of life faded from the tubes. The green eye winked out.

For a few moments Murphy and Hayter stared at the black, lifeless mass of metal and glass.

"Let's get back," suggested Murphy.

Hayter grunted assent, following Murphy out of the transparent bubble



into the corridors.

"It was nasty watching you switch off that machine," he said.

"I know. I felt it myself the first time. It felt almost as if I was killing something . . ."

"I had the same sensation," agreed Hayter.

The most conspicuous items in the heavens when Murphy opened the airlock were two plumes of fire streaming from the backs of the men bringing the trip mechanism. They waved to Murphy and Hayter as they passed; the voice of one of them crackled in Murphy's headphones:

"Nothing to report on leaving, sir."

Murphy acknowledged the brief report, half-turning his head to watch the men disappear inside the beacon.

"What are you going to do next?" asked Hayter.

HIDEAWAY

"Wait and see how long it is before that trip is worked. Then keep an eye open for the ovoid and try to catch it. How I'll do that I don't know at present . . ."

A little red light flickered down by Murphy's chin. Quickly he snapped his receiver over to the ship's switchboard.

"Murphy."

"Switchboard, sir. We'd like you and Doc. Hayter aboard as soon as possible. The golden ovoid has boarded ship and held off help for Blackwell while Ellers attacked him. We had to fire on it. Then it realised there was too much lined up against it and flew out of the lower three airlock. It got in during a routine test and injured the man doing maintenance."

"I'll be back immediately," snapped Murphy.

"What do you make of that lot?"

"I'd like to know just what that golden ovoid is trying to do."

"So would I. It seems to know the right people to push out of the way . . ."

"Just a minute," interposed Hayter. "Ellers could not have attacked Blackwell in his present state; he couldn't even crawl, let alone get out of bed and become violent. So my idea is the ovoid forced him to. He's quite unfit at present; he'd had no time to make notes about the machine, but he may have told Blackwell what the trouble was. If Blackwell could pass on his knowledge we should have a good idea of what to do. So the ovoid tries to kill two birds with one stone. It tries to kill Ellers by exhaustion, and Blackwell by a mixture of shock and exhaustion." Hayter's excited flow of words ceased suddenly. "Does that help, do you think?"

"I don't know. We'll see when we get back. If we knew what the ovoid was and how it got its knowledge we'd be better off."

Hayter's reply, a soft grunt with no special intonation, seemed to indicate his mind was active with other thoughts. Murphy glanced at him and cut jets, noticing the golden plume trailing behind Hayter fade out a split second after he switched off his own power. He manoeuvred for landing, preceding a silent Hayter through the airlock.

Inside the ship the doctor said: "I'm going to see what can be done with narco. Be down in ten minutes, will you?"

Murphy, loosening the fastenings on his suit, acknowledged Hayter's request briefly.

When he arrived at the sick bay he found Hayter's suit deposited in a corner and the sliding door to the sick bay itself slightly open. A momentary flash of white through the two-inch crack between door and jamb indicated one of the orderlies was busy. Murphy knocked on the door, awaiting Hayter's permission to enter. Several seconds elapsed before his voice called:

"Come in."

Hayter sat on the edge of Ellers' bed, hypodermic syringe in hand. Murphy was astonished to see Ellers himself in a strait jacket. A glance across the room showed one of the orderlies swabbing Blackwell's face with antiseptic.

"I didn't think it was this bad," observed Murphy.

"Nor did I. He made a ghastly mess of Blackwell's face with his nails. He was trying for the throat, and nearly got it." He paused. "I keep a

gun in my desk, and of course the orderly knew about it. When the ovoid appeared and he tried to beat it off with his hands but couldn't he told the other man to get the gun. One shot, which missed by the way," he pointed to the ceiling where tatters of paint had been stripped away from the metal by the heat of the beam, "was sufficient. The significant thing is, however, that no sooner was the ovoid out of sight than Ellers calmed down appreciably . . ."

"The ovoid made him do it?"

"Yes. It's even worse than it sounds. Listen to this."

Hayter turned towards Ellers, saying in a slightly deeper voice than his usual pleasant baritone:

"Why did you attack Blackwell?"

"Blackwell mustn't live."

Murphy swallowed and exhaled deeply, sitting down on the opposite side of the bed from the doctor.

In the same tone Hayter said:

"Why mustn't Blackwell live?"

"I have been told."

"Who told you?"

Ellers wriggled as much as the strait-jacket would permit. His eyes, which had remained closed until now, fluttered open briefly. His head waggled from side to side on the white pillow. He gurgled.

"There we have what might be a clue," said Hayter. "He's not sure what put the idea into his head. He's more or less certain it isn't his own, yet he can't think how it got there. The ovoid planted the impulse to kill, but not a reason . . ."

"Did the ovoid plant the idea? I know he calmed down when the ovoid vanished, but . . ."

"You're thinking he might have started hearing non-existent voices? No. He's not old enough to be paranoid; furthermore he would have to undergo the usual periodic check as he's an Admiralty man, and any such tendencies would soon be spotted."

"What can you do?"

"Nothing at present. All I can do is hope he'll come out of it."

"How's Blackwell?"

"Out for forty-eight hours," replied Hayter flatly.

"So the only two people who know anything can't help the slightest bit." He paused. "Sometimes I loathe this and wish I had a quiet little job with the Planetary Commission on Diemos, checking stores in and out." He grunted, adding, "I suppose I'd better go and do some of that paper work I've got piling up."

He rose to his feet and glanced at Blackwell. The orderly had finished binding his face in plastic skin and was busy collecting the few instruments and bottles he had been using on a tray. In Hayter's anteroom the viscreen buzzed for attention. The orderly picked up his tray and walked through to answer the call. Murphy half-heard his name mentioned; he looked up as the orderly approached.

"Wireless shack would like to speak to you, sir."

Murphy glanced at Hayter.

"Wonder if it's been tripped," he muttered and walked briskly to the

viscreen.

"What's the matter?"

"Beacon's still transmitting, sir."

"Still transmitting—you mean the alarm we rigged hasn't been tripped?"

"That's it, sir. The beacon . . ."

"It can't be. I . . ."

"I'll let you hear it, sir."

The familiar chatter of morse notes issued from the loudspeaker. The irregular pulsations continued for a few seconds, suddenly issuing from the speaker with redoubled force.

"What . . .!" shouted Murphy. The operator's face disappeared from the screen, reappearing a few seconds later.

"The alarm's been tripped, and there's another transmitter operating on the same frequency giving the same signals."

"So I hear," said Murphy exasperatedly. "Thanks, operator." He switched off the set.

"Hayter."

The doctor entered the anteroom, unused hypodermic in his hand.

"It seems the ovoid has a transmitter aboard its six-foot length as powerful as the one aboard the beacon."

"That doesn't follow," disagreed Hayter. "It might have just a transmitter to cover this cube of space . . ."

"I think my suggestion is more likely than yours. I don't suppose it'll be long now before we get a message from the Admiralty asking why we haven't disconnected the beacon and why it transmitted double for a few seconds."

He paused, thoughts rushing through his mind in orderly streams. Switching on the viscreen he ordered the switchboard to transmit emergency instructions. It would mean a decrease in the general efficiency of the ship's working and a slowing down of the plans for bringing the beacon and the *Quest* to the Admiralty yards on Titan, but it would be safer, although slower, to have the men working in pairs and armed rather than risking lives individually when out of the ship or working on parts exposed to space.

"One more point," added Murphy. "If any member of the crew sees a golden ovoid about six feet long, they are to endeavour to catch it. They are not to use guns unless necessary, which means only in self-defence. I want the ovoid at worst disabled, not completely burnt up. Keep me posted if anything happens."

The operator signalled he had received the instructions and blanked out his screen.

"Why not put a guard on the Thinker?" asked Hayter.

"I could have done, but it might have meant death for him. I don't know what weapons the ovoid has got. I'll grant it seems to have none, but just because it's used none so far, doesn't mean to say it possesses nothing. Besides, if it's got sufficient brains to do what it's done so far, I don't think it'd have much difficulty in deceiving a guard in some way or another. I'm going to put on my suit. Airlock number two in ten minutes. We'll know our way around the beacon before long."

Within twenty minutes Murphy and Hayter stared once more at the reactivated Thinker, the little green eye studying them and the tiny golden flowers blooming anew, looking as though life had never been extinguished from them. Carefully Murphy detached the trip mechanism and removed the recording spool from its socket.

"We'll see what it shows when we get back, but I'm willing to bet it shows a golden ovoid, aren't you?"

"I think it will," agreed Hayter. "Have you considered," he continued, "why the Thinker is doing all this?"

"No. But I'm beginning to wonder who controls what. It looks to me very much as if the golden ovoid has the hold on the Thinker rather than the other way round."

"Uh huh. But I don't think the ovoid has a lot of power otherwise it would have done something more drastic against us."

They had reached the airlock. As Murphy operated it he said: "I'm going to take up your suggestion and put a couple of men on guard. They may be able to tell us something this spool can't," he tapped the magnetic pocket in his suit where the film rested, "if only because it's just a pair of eyes."

He switched to the *Scavenger*, giving instructions to Doland to send two men to watch the Thinker, returning to the local channel to hear Hayter's excited voice demanding his attention.

"Murphy! The *Quest* is appearing over to the right. The ovoid is coming along with her. Can you see?"

Murphy's lips tensed.

"Yes, I can see it," he replied slowly.

The *Quest* trundled seemingly up towards him; abruptly he was falling towards the ship rather than she rising up to him. The ovoid, a slim golden dart, rose like a fish alongside the bulk of the repair ship. It began to move sideways, landing gently on the *Quest's* metal hide.

"Come on," snapped Murphy.

Expertly he dived towards the *Quest* at dangerous speed, braking heavily and feeling the metal ribs of the suit crush into his back. His feet touched the surface of the ship about twenty feet from the ovoid. A vibration through his suit told him Hayter had landed heavily behind him. Carefully he advanced a step at a time towards the ovoid. It gave no sign of having seen him, nor did it make any movement away from him.

"I'm following you," muttered Hayter's voice in the headphones.

A sliding panel in the top of the ovoid slid back. A hand, attached to the end of a telescopic rod, snaked out, holding something which glittered briefly in the light of the distant stars. Carefully the hand deposited the object on the hull of the *Quest*. Immediately the hand flashed back into the ovoid; the cover slid into place and the ovoid darted out of sight beneath the obscuring bulk of the *Quest*.

Murphy walked disgustedly towards the little object on the hull. He knew before he bent down to pick it up it would be a tiny replica of a surgeon's saw. With it in his metal-gloved hand he asked Hayter:

"Polston said 'saw through it.' We're being asked—or told—to saw through something. What?" He handed the saw to Hayter.

"I don't know." The doctor turned the saw over clumsily with his fingers. "It's identical with the other one as far as I can see," he confirmed, placing

it in a magnetic pocket. "I'll make a comparison when I get back," he added.

"Yes," agreed Murphy reluctantly. "We'd better get back: I've an awfully large file which needs attention . . ."

"And I expect Ellers will need mine."

They jetted off towards the *Scavenger*.

"Hayter, is there a chance the Thinker would have manufactured the ovoid as a remedy for loneliness?"

Hayter paused several seconds before he made an answer. It was evasive.

"That's taking a psychological viewpoint. I'd not like to comment on it without some thought. Once more Ellers could give us a lot of help if he were in a fit condition . . ."

"If he were in a fit condition I'd be a lot happier. I'd know where I stood with regard to the Thinker." Murphy exhaled exasperatedly. "You know my instructions," he continued. "I've got to bring back the *Quest* and the beacon. Those are my orders . . ."

Hayter's chuckle echoed hollowly in Murphy's ear.

"Stuck between duty and conscience again, eh?"

"Yes," admitted Murphy reluctantly. "It's not easy to see a way out, either. If Ellers and Blackwell were dead, like the rest of the crew, I'd have no hesitation in blowing the beacon apart. As it is . . ."

"Ellers isn't dead, and he probably knows the answers so far, and possibly to the whole problem. And it's a hundred to one chance the only solution is blowing the beacon apart . . ."

"I know. Seems that every job we go on we need to learn a whole new field of knowledge. Once upon a time salvage was salvage; a ship wrecked by a meteor was the worst I ever got. Now Man has started going starwards, everything happens. Still, when the jobs are finished I find I've rather enjoyed them—but not until they're finished. Take the time . . ."

His eye noticed the little red light indicating the *Scavenger* was calling. He cut himself off from Hayter, grunting "Murphy" into the mike.

"Switchboard here. Putting you through to the men guarding the Thinker."

A click in the headphones almost deafened him; he opened the circuit to bring Hayter into the conversation.

"Hello, men aboard the beacon. Who are you?"

"Vine and Garratt. Vine speaking. Garratt is unconscious. We've had a nasty time. I don't know how, or where, but the ovoid got into the beacon and tried to force its way to the Thinker almost as soon as we got here. We prevented it physically as best we could until it started throwing detachable gear with its hands. We pulled guns on it and shot, giving near misses. It retaliated with a violet beam which comes from the nose. One blast hit Garratt fair and square, and one just touched me, numbing the left arm; I can't use it properly yet. Then I shot at the ovoid with the intention of knocking it right out. I caught the tail; it's got a long rip in it—looks as though a tin-opener has been at it."

"Ask Doland to send some help over to you. Do you think Garratt is badly hurt?"

"Can't tell, but if my arm's anything to go by the beam has just paralysed the voluntary muscles and it'll wear off."

"Right. If the ovoid appears again, blast it apart."

Murphy cut his connection to Vine.

"Another patient for you," he said to Hayter.

"Yes!" The doctor paused. "I've been thinking about your suggestion the Thinker may have manufactured the ovoid."

"Well?"

"Apart from the fact it's provided itself with a chess opponent for its equivalent of the long winter evenings, don't you see it's done something far more fundamentally dangerous than that?"

"Anything is deadly which starts sniping at my men," replied Murphy.

"I know," agreed Hayter. "The situation is even more serious, however; Ellers will have a fit when I tell him about it. It's a matter of viewpoint. The Thinker is the first robot to re-create its own kind. It's probably not sane; it may have produced something which has completely alien thought processes, based on totally unknown standards. And for what purpose, real or imaginary—although I should think it's pretty real to the Thinker—it has produced the ovoid, I just can't conceive."

"Looking at it that way, there's only one course left open to me," snapped Murphy. "I'm going to blow that beacon apart as soon as I can get explosives fixed."

"Could you wait until I've seen Ellers?"

"If Ellers manages to talk before I press the switch, good enough. Otherwise I report the facts and my action, and I think the Interplanetary courts will uphold my decision.

"I see now why the beacon went behind the Folds; it had got something to conceal and wanted to get out of the way, to hide from anything which might be sent after it." He paused. "That was a rather ridiculous thing to do. If it hadn't gone behind the Folds nobody would have taken an awful lot of notice of a three-hour break in transmission. It looks as if it wanted to get out of the way; as if somebody was chasing it when nobody was. Any ideas, Hayter?"

"Nothing more at present. When we can find facts which fit the situation, we'll be in clover. Until then . . . but if we're going to blow up the beacon we'll never know the answers. Couldn't you let me have a bit more time with Ellers before you detonate the charge? We might manage . . ."

"You can have as long as it takes to set the charges. The beacon's not safe. If it should get back through the Folds . . ."

"I'll see what I can do with Ellers," interrupted Hayter.

Murphy switched over to the *Scavenger*.

"Put me through to Doland," he ordered.

Within a second Doland had answered.

"Send four men over to the beacon. They're to have sufficient explosive to blow the Thinker apart without doing too much damage to the rest of the beacon . . ."

"That'll be difficult," protested Doland.

"I know. I'll account for the damage when the time comes. Get the men to fix the charge in position as soon as possible. I'm going to help Vine and Garratt. Hayter will be returning to ship."

Doland acknowledged Murphy's instructions, leaving him to switch back to Hayter.

"Does that meet with your approval?"

"Yes," the doctor admitted reluctantly. "I'd still like some more time with Ellers."

"Sorry. Make the most of what there is left. I'll tell you when I'm going to blast. If anything's happened in that time we'll talk it over then. I can't . . ."

The little red light flashed earnestly down by Murphy's chin. He flipped the switch across.

"Murphy!" he snapped.

"Vine here, sir. I'd like immediate assistance. Garratt is still unconscious and there are two ovoids chasing each other round the beacon . . ."

The implication of Vine's words took a few moments to penetrate throughout Murphy's mind.

"Two?" he grunted in surprise.

"Yes. Two. The one I marked earlier on is shooting with the purple beam at another, smaller one. That's making for the main power and reflex cable between the Thinker dome and the power plant. The smaller ovoid seems unarmed . . ."

"Shoot the ovoids off if you're attacked. I'm coming right back with Hayter. Leave your transmitter open for local communication. Come on Hayter, back we go."

Murphy swung himself towards the beacon, watching Hayter U-turn on to a parallel course.

"What do you make of two of them?" asked Murphy. "It rather complicates the issue . . ."

"Simplifies, most likely solves the problem completely," laughed Hayter.

"How?"

"A longish story. Twice you almost presented me the solution on a plate. Remember once you suggested the Thinker might have constructed the ovoid as a playmate?"

"Yes. Did it?"

"Not exactly. It made the ovoid, both of them in fact, but neither of them as a playmate. Remember, too, you thought Ellers might be suffering from a persecution complex?"

"Yes . . ."

"He isn't, but the Thinker was . . ."

Murphy began to follow the trend of Hayter's thoughts, looking at the history of the machine from the point of view of a basic problem in psychology. In the first place the Thinker had been taught by someone approaching genius; a man of great promise in several spheres. He had been killed; his death meant a pause in the Thinker's education for work in a human society before a new teacher was allotted to it. The break, and the contrast between the methods and ideas of the two instructors had driven the machine to think, in its free time, of why the original teacher had vanished. If it had realised Polston was dead . . . Thinkers weren't supposed to know humans could die until they were sufficiently mature, and this one had been only half-trained.

"Hayter, I begin to realise why the Thinker went behind the Folds. It got the idea the world was stacked up against it. First Polston vanished,

which was probably quite a blow to it. The next blow came when Somers tried to pick up where Polston left off and couldn't. The differences in presentation and outlook were tremendous, I suppose . . ."

He broke off in mid-sentence, braking as he dropped towards the entrance to the beacon. It took only a few seconds to operate the airlock and enter the sphere. Quickly Murphy walked towards the Thinker dome.

"Hello, Vine. We're inside the beacon and should be with you in a few seconds. Is anything happening?"

"Nothing apart from manoeuvring and an occasional shot from the larger ovoid. That seems determined to prevent the smaller ovoid getting any nearer the main cable than necessary. It's stalemate as far as they're concerned . . ."

"We're coming into the dome now," interrupted Murphy, pulling back the sliding door.

"Pleased to see you, sir," greeted Vine. "Garratt's over there." His metal-gloved hand pointed to the opposite side of the tank of lifeless tubes and black metal. Hayter walked to where Vine indicated, dropping on one knee out of sight behind the Thinker.

"The ovoids are up there." Vine's finger pointed to a slightly more dense patch of lights in the surrounding blackness. "Once you get used to looking for them they're easy enough to spot. They . . . There goes the larger one, and . . ." He broke off, eyes following the ovoid, flashing on a downward course towards the dome. Instinctively Murphy ducked. A beam of purple light lashed momentarily from the nose, carving away a portion of the dome.

"Hayter, how's Garratt?"

"He's moving. Can't tell if there's any real damage, I'm afraid."

"Is his gun anywhere?"

"I've got his gun. I'd just recharged it."

Vine handed the weapon to Murphy.

Murphy pushed himself through the gap in the plastic dome into the empty space in the centre of the sphere. There was no sign of either ovoid. Cautiously he coaxed a tiny punch of pressure from his jet, propelling himself towards the main cable. A beam of purple darted past him, expending itself on emptiness. Murphy turned over on his back, blasting at the place from which he thought the bolt had originated. He missed, the flash of orange light from his shot showing up the retreating ovoid. He glanced towards the power cable. The smaller ovoid had reached it, and its telescopic arm was rushing busily backwards and forwards, the hand holding a tiny surgical saw with which it was rapidly wearing away the insulation.

The larger ovoid blotted out a few lights on the distant side of the sphere. From its silhouette it appeared to be travelling at an angle of forty-five degrees to the direction in which Murphy was looking. Carefully he aligned his weapon on the target, waiting for a certain opportunity to make the kill.

A beam of purple slashed from the ovoid's nose, spraying over the smaller ovoid crouched like a snail against the main cable. Immediately, although he knew he was too late, Murphy pressed the trigger. A tiny glow of satisfaction trickled along his nerves as the nose of the ovoid melted into incandescence, and the machine continued its senseless flight until it crashed soundlessly against the far wall of the sphere.

"Coming up to join you," said Hayter's voice in the phones.

"Right," agreed Murphy, heading towards the smaller ovoid alongside the main cable. Slowly he coasted towards it, noticing the spidery hand had ceased its busy motion, and the little surgical saw hung nearby in the absence of gravity to pull it away from the machine.

Murphy sensed Hayter beside him.

"Easy, isn't it, when you've got all the facts and are looking at the right way."

"Yes. How's Garratt?"

"I think he'll be all right. So the purple beam was too much for the little 'un, eh?"

"Probably as well," said Murphy. "Funny how a peculiar facet of each trainer impinged itself on the machine's mind. It split it into two distinct halves; two totally differing sets of desires and aims . . ."

"A literal case of schizophrenia," classified Hayter, "the trigger being Polston's death. The Thinker must have lead a ghastly life, trying to reconcile one part of itself with the other, and as one part was ascendant over the other, built the ovoid appropriate to the mood of the time."

He leant forward and took the little saw in his hand.

"If it's tough, old boy, saw through it'," he quoted softly.

He paused.

"It was trying to do just that, too."

THE END

THE LITERARY LINE-UP

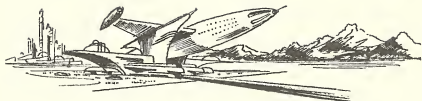
As mentioned in the Editorial, the July issue sees the first part of J. T. M'Intosh's three-part serial "The Esp Worlds." As the title indicates, it deals with a group of worlds peopled by beings who have the powers of extra sensory perception. To one of these worlds a small group of Earth people infiltrate—a handful of humans who have been trained in esp—but they fail to understand the alien reasoning of the dominant females of Noyan, until . . .

But that is where you will get caught up in M'Intosh's fascinating plot and impatiently await the next instalment.

The lead novelette will be F. G. Rayer's ". . . Man's Questing Ended," which theoretically is a sequel to "Time Was . . ." in the Winter 1951 issue, but only so far as the characters are concerned. It is a complete and separate story in itself. And there's *another* nostalgic Martian story by E. C. Tubb plus A. Bertram Chandler and F. G. Rayer.

January ratings produced another one of those unexpected surprises—Tubb just taking first place from Chandler.

- | | | | |
|------------------------|----|----|---------------------|
| 1. Without Bugles | .. | .. | E. C. Tubb |
| 2. Pest | .. | .. | A. Bertram Chandler |
| 3. Operation Exodus | .. | .. | Lan Wright |
| 4. Alien Analysis | .. | .. | Dan Morgan |
| 5. A Matter of Salvage | .. | .. | Sydney J. Bounds |



HOME IS THE HERO

By E. C. TUBB

After five years on Mars it was wonderful to be back. Or was it? In fact, what did happen to all pioneers of spaceflight?

Illustrated by HUNTER

Gravity clawed at him, dragging down his head, bowing his back, sending protesting quivers along the muscles of thighs and shoulders. His neck ached. Beneath sore ribs an overstrained heart pounded as it forced blood to the brain.

He stood wide-legged at the foot of the ramp, staring down at the patch of flame-scorched dirt between his feet. Above and around him the atmosphere pressed, thick, clammy, choking with humidity. Pressure made his ears ring and his head throb.

It was raining, a fine drizzle that hung in heavy droplets on his uncovered head, mingling with the sweat beading face and throat. Fitful gusts of wind struck with almost painful force, and unfamiliar smells irritated his nostrils.

Sound came to him. The whine of an engine, a sullen murmur, the metallic clang of the loading port. He gritted his teeth, forced strength into legs and neck, twisted his lips into a grin—and lifted his head to smile into the cameras circling him.

Flash bulbs flickered like summer lightning. A cine camera, precariously mounted on the roof of a car, centred him with its telescopic lens. The squat bulk of telecameras loomed at either side. He blinked his eyes against the retinal glare from the flash bulbs, and suddenly people were all around him.

A fat man, a light top coat shielding him from the rain, shook his hand, smiling into the cameras. A woman, wearing furs and smelling of perfume, threw her arms around him, pressed her cheek to his—and smiled into the cameras. Others, all strangers, all more intent on the cameras than on himself. All except one.

HOME IS THE HERO

A tall thin hawk-faced man, his hair tinged with silver, his eyes serious behind thick lenses, stood at the edge of the little crowd. He smiled, and thrust forward, elbowing the others carelessly out of his way.

"Major Randolph, my name is Lasser. Doctor Lasser. May I welcome you?"

"Why not?" Randy closed his eyes in sudden weariness. "Does the pose suit you?"

"What?" Lasser frowned, then smiled as he caught the meaning. "I'll leave that to the politicians and the film stars. How do you feel?"

"Rotten!"

"I know. Stick it for a few more minutes if you can. First impressions are important, you know."

Randy nodded dumbly. The cameras had mostly gone by now, they had given place to a noisy, jostling bunch waving notebooks and firing questions.

"Have a good trip, Major?"

"Anything new to tell us?"

"Find any natives yet?"

He kept the smile pasted to his features and snapped brief answers.

"Yes. No. No."

With relief he heard Lasser's smooth voice, felt the firm grip on his arm steering him to the edge of the field.

"Now, boys, the Major's had a hard trip. How about giving him a rest now?" he chuckled. "Why get wet anyway? There'll be a press conference over at the hotel. All are welcome, bring your cameras and notebooks, drinks are free."

They laughed good-naturedly, and cleared a path to the waiting car. Lasser jerked open the door, slid inside, gestured for Randy to follow him. He ducked his head, put one leaden foot within the vehicle, and a woman called a last question.

"How does it feel to be back, Major?"

He looked at the dull metal sky, felt the thin drizzle wetting his face, gulped the thick air, and grinned.

"Wonderful!" he said, and really thought that he meant it.

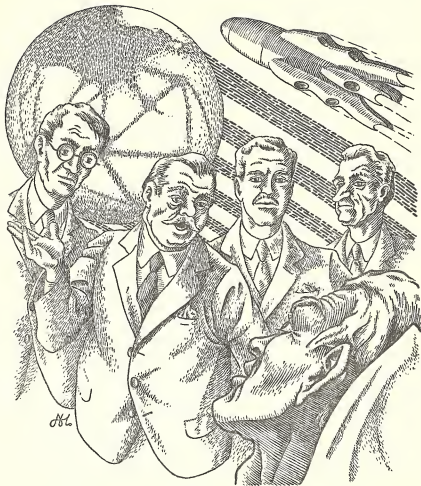
Within the privacy of the hotel room, something seemed to happen to him. He slumped down on the edge of the bed, rested his head within his hands, his elbows on his knees, and shuddered with nausea. Lasser felt his wrist, pursed his lips at the greyish pallor of face and neck, and disappeared into the bathroom.

Randy heard the sound of running water, a sound he hadn't heard for over five years. Lasser stood over him. Light from the glow tubes shone from his thick glasses, giving him a strangely vacant look.

"As a doctor I can guess how you feel. Get your things off. I prescribe a warm bath."

He helped to remove the knee-high dust boots, unzipped the thick coverall, peeled off the woollen underwear. Angrily Randy shook off the helping hand, staggered to his feet, and almost fell through sheer weakness. Rage gave him strength. Pride forced him to walk unaided, every movement an agony, but he made his own way into the bathroom.

Gratefully he slid into the warm water. Shock caught his breath, sent



him rearing half out of the bath, gasping, sick. Slowly he slipped fully into the water. For the first time he smiled, and meant it.

"Better?" Lasser stood by the door.

"Wonderful!" Randy sighed and stretched luxuriously.

Lasser nodded. "I thought so. The water supports your body, cuts down gravity drag," he smiled in quick friendship. "I'll send for a masseur. Your muscles are going to be terribly sore for a while. Massage will help."

Alone Randy let himself float, lying full length, steadying himself with his hands. Like all the colonists he was not tall; tall men had more mass, needed more oxygen, more food, more material for clothing. Randy was a little over five feet in height, the tallest man on Mars was not over five feet six.

He smiled as he thought of them. They had envied him, had teased him unmercifully, warned him not to drown in the rain, to stay away from water in any form. His face hardened. With sudden bitterness he looked at his

pipestem arms, thin legs, scraggy body. His skin felt hard, dry, scaly. Once he had been an athlete.

It had been too long, he thought drearily. He hadn't guessed, none of them had. During the weeks of free fall he had been normal, then the shock of deceleration and growing weakness. He had felt the first touch of despair when he had walked down the ramp. He hadn't the strength of a child.

Humans are adaptable. Men can do with less and less water, less and less food. Muscles can gain strength with use, grow, develop, become supple and strong. Equally so can they wither, atrophy. With a third normal gravitation, they could live in a low air pressure, needed less oxygen. But they had paid.

Randy remembered the first few weeks on Mars. They had been giants, with a giant's strength. Then gradually, so gradually that they hadn't noticed, they had lost their strength. They no longer took long gliding steps. Unused muscles atrophied, lost their power. Now? It was torture merely to stand.

Lasser walked into the bathroom, he was smiling.

"I've contacted a good man, he will be up soon." He sat on the edge of the bath. "I hope that you don't mind my being here, but I'm interested in the effect of alien environments on the human physiology."

Randy grunted. "Take a good look," he invited. "Not pretty, is it?" "No, but to be expected surely?" Lasser examined him visually with professional eagerness. "Emaciation caused by poor diet, muscular wastage inevitable in lower gravitation, skin condition due to vitamin lack." He nodded. "We can learn a lot from you, Major."

"Perhaps. How soon will I get back to normal?"

Lasser shrugged. "I wouldn't venture a guess. After all five years is a long time." He stood up smiling. "Don't worry. We'll get you back into shape. Better get dressed now. You're going to have company."

Painfully Randy crawled from the bath.

There were three of them beside Lasser. Lying full length on the bed Randy tried to fit them into niches, and failed. He was out of practice. The fat one was Senator Wilson, head of the Department of Extra Planetary Affairs. With him was a small sharp-faced man, a lawyer. The third had the unmistakable stamp of the military, he looked miserable in his civilian clothes. Wilson came quickly to the point.

"Lasser tells us that you are unable to stand with comfort. I hope that it is a condition that will not last too long?"

"I echo your sentiment," Randy said drily. "Why?"

Wilson flushed with annoyance. "The three-month period of the supply rocket hardly gave us time to brief you. That's why you were recalled."

"Oh! I thought that the expiration of my contract had something to do with it. Was I wrong?"

Wilson coughed and glanced at the sharp-faced man. "The lawyer avoided Randy's eyes.

"Under emergency powers voted by Congress to the Department of Extra Planetary Affairs, all original contracts are null and void," his voice rustled into silence.

"I see," Randy said quietly. "What made them do that?"

"You'll understand later," snapped Wilson. "Now, to get to the point. It is essential that the original enthusiasm attending the initial colonisation of Mars be revived. Your duty will be to publicise the colony. Lectures. Personal appearances and so on. A programme will be worked out for you."

"Maybe the Major would appreciate hearing the reason for his recall." Lasser spoke from the other side of the bed. "As head of the colony he should be informed."

"Naturally," Wilson agreed. "General? Will you put the Major into the picture?"

The military man stirred in his chair. "If you think it's necessary," he said resentfully. "I should have thought that mere orders would be explanation enough for a soldier."

"Get on with it, Clarkson," Wilson snapped. "You're wasting time."

The General purpled with anger, but when he spoke his voice remained calm. "Analysis of the dust you sent back on the supply rocket shows a certain degree of radioactivity. I'm not too sure of the scientific terms, but briefly it seems that there are traces of some easily fissionable element evenly distributed throughout." He paused. "You can see what this means, I hope?"

"No," Randy said flatly. "We knew of the radioactivity five years ago. Why the sudden interest?"

"We have only just discovered how to separate the element. It is fantastically powerful. A plant on Mars could refine, concentrate, and ship the pure element direct," enthusiasm warmed the cold tones.

"I see!" Randy lifted himself on to one elbow, his eyes shining. "This is just what we needed. Once Mars has a saleable export the future of the colony is assured. When the news gets out every nation will break its neck to build rockets, ship men, found colonies. It will be the making of Mars!"

"The news must not get out," Clarkson said flatly. "I thought that would have been readily apparent to you. It seems I must remind you of security regulations. The international situation is too delicate for such material to fall into any hands but our own."

Randy stared his bewilderment. "But I don't understand. Why the secrecy? What better incentive could you have to lure men to Mars?"

"We have one," Wilson interposed hastily. "Leave that part of it to us. Congress can worry about the allocation of atomic material, all we need do is get it." He climbed to his feet, spoke in a low voice to Lasser, came across to the bed.

"Don't worry about anything, Major. We are just as eager to see the colony a success as you are," he smiled. "Your part should be a pleasant one. Not many men would object to being a hero."

Smiling he left the room. Randy sank back on to the bed, wincing with the pain of his sore muscles. Lasser stood looking thoughtfully down at him.

"Hello, Hero!" he said.

Weakly Randy cursed.

"The first thing I did when I returned to Earth," said Randy deliberately, "was to have a bath." He paused. "It was the first in more than five years!"

His audience shifted restlessly sending a wave of perfume floating towards the dais. Randy wrinkled his nose disgustedly. He was tired with long

hours of standing, his head ached, and he felt disgusted with himself.

He looked far different than he had two weeks ago. The grey-faced man, emaciated, too weak to stand, had given way to the enterprising hero. Sun lamps had tanned his skin. Experts had tinted and arranged his hair. Padded clothes artfully concealed wasted muscles, he even wore levitators in his shoes.

Wilson had shrugged when he'd protested. "We can't have a sick hero, Major. They expect a dashing adventurer, a rugged pioneer, someone to look up to." He smiled. "And don't forget the ladies. They are the ones you must convince most of all."

Randy looked at them. A prize collection of spoiled, useless females. He tried to imagine them at the colony, and mentally shuddered.

"The first few years were hard," he continued. "We were totally dependent on the supply rocket for everything. After we built the food plant, found water, set up the power pile, and settled down, things became much easier," he hid a smile as he thought of just what "easier" meant.

"We had to work hard of course, but there were compensations. The low gravity, the sense of comradeship, the knowledge that we were the advance party of the millions to come." He looked seriously at them. "The knowledge that, almost unaided, we were taming an alien world!"

They cheered then, they always did. Yelling senseless sounds at something they knew nothing about. He stood silent as the hall echoed. A spotlight bathed him with sudden glare. A band broke into a stirring martial air. Cheer leaders, planted in the audience, sprang to their feet.

"To Mars!" they chanted. "To Mars! To Mars!"

Randy stood, arms folded, a grim smile on his lips. That was for the audience. Within he felt sick. He was pragmatical enough to believe the end justifying the means, but this stupid hysteria, this unthinking emotion, made him ashamed of his kind.

Mars was a clean world. Emotion such as this had no place there. He thought with sudden nostalgia of the colony. He could imagine the looks of contempt if they could see him now. And all for money. A bigger approbation. More power for the Department. More ships. More men. More refined atomic death. And for what?

Curtains swished before him. The band changed tune, the national anthem bringing a measure of order to the meeting. Randy fumbled for a chair, slumped into it. He felt giddy with weakness, the pain of wrenched muscles bringing sweat to face and neck.

Lasser appeared, wiped away the sweat, held a pungent-smelling something beneath his nostrils. He didn't speak.

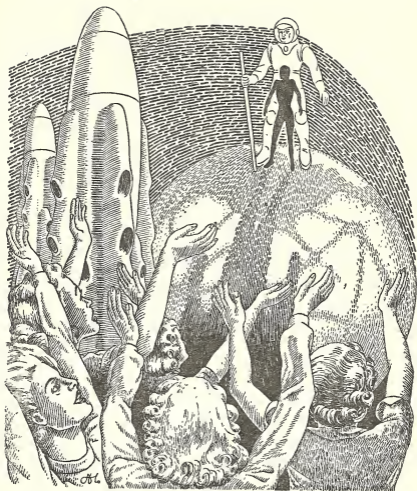
Randy was grateful for that at least.

Wilson wasn't just fat, Randy decided. He was nasty. Soft loose flesh hung in folds from his sagging jowls. Puffy bags drooped from little greedy eyes. His skin had a pink, well-massaged, well-fed look. Idly Randy wondered if he had ever worked.

He drummed thick fingers on the desk between them.

"I don't understand you, Major. Aren't you happy?"

"No," Randy said flatly. "And I am easy to understand. I'm finished. When can I leave for Mars?"



Wilson pursed thick lips. "That rather depends," he said slowly. "We recalled you to do a job. Not a hard or unpleasant one, and one which I would have thought you'd be eager to do. You haven't finished it. Until you do I hardly see how we can return you."

"I see," Randy thinned his lips. "Return or not, I'm finished with your circus."

"Are you?" Wilson smiled. "Think again, Major. You're a hero now. You can just as easily be a traitor."

"You're crazy! My patriotism has never been in question."

"No? Deliberate refusal to aid your country obtain vital war material could be regarded as an act of treason," he leaned forward persuasively. "Be sensible. I know that things have been hard for you, but time is important. I know how much the colony means to you. I feel the same way. All this circus, as you call it, is necessary. It's getting us what we need

most of all."

"Money?" sneered Randy.

"No!" Wilson was surprisingly serious. "Women!"

"Women?"

Wilson nodded.

"But why?"

"To lure men to Mars."

Randy laughed.

"I mean it," said Wilson. "Think a moment. You want the colony to be self-sufficient. So do we. How else can we make it so? How can we send men to Mars and leave them there indefinitely without women? When the refining project really gets started we're going to need hundreds of men. Shipping them out will be hard. Bringing them back will be impossible."

"Why?"

Wilson shrugged. "Work it out. You've had the experience."

Randy nodded. "I see. Lasser did learn something then. What's the limit?"

"You've had it," Wilson was deliberately brutal. "You will never fully regain use of your muscles. Your heart is overstrained. If you stay on earth, you'll die young."

He had expected it, but it was still hard to bear. Exile never sounds nice, but the choice was worse. He sighed in defeat. Wilson smiled.

"It won't be too bad. We want you to pick out the women, Lasser will help on the medical side of course. Talk to them. Knock any romantic nonsense they may have out of them. One thing you can promise."

"What?"

"Every single one of them is sure of a husband."

"Yes," Randy said drily. "But what about the reverse?"

Wilson didn't answer.

"I've picked them with three objects in mind," said Lasser. "Perfect physical health. Accomplishments that will be of use to the colony. And a desire to mate and rear children."

Randy grunted doubtfully. "What do they look like?"

Lasser shrugged. "What do you expect? If they were strong on the last requisite, and good looking, they wouldn't be available."

"Never mind. Five years without women and a hag looks good." Randy paused before a door. "Tell me, Lasser. You know Wilson pretty well, don't you?"

Lasser nodded, eyes suddenly guarded.

"What's he decided about me?"

"How do you mean?"

"I'm useful to him now. What happens when I'm not?"

"Does it matter? You'll be back on Mars."

"Will I?" Randy insisted. "Or will I be on some dump heap. Do you know?"

"Perhaps it's up to you," Lasser smiled meaningly. "Sometimes the user can be used." He became serious. "Look Randy, I'm your friend, I want you to believe that. Do you?"

Randy nodded.

"Then one tip. Use the first person a bit more. Understand?"

"Yes," said Randy, and smiled.

Together they pushed open the door.

They sat neatly in rows. Prim, intent, notebooks open on laps, self-conscious and a little smug. Women for Mars. Randy looked at them with interest.

None of them was tall, he noted with approval. Lasser had used psychology there. Tall women gave short men a sense of inferiority. Mostly they were broad beamed, deep bosomed and used little make-up. What their accomplishments were he couldn't guess.

He wasted no time.

"All of you are here because of one simple fact. You want a husband. You want children. And you are prepared to leave Earth forever to get them." He paused staring tight-lipped at them.

"If you deny that fact—if to yourselves you feel that there are other reasons for going to Mars, then you don't belong here. I advise any such to leave. Now."

They rested, fidgeted, but stayed firmly in their seats.

Randy grinned. "I'm not going to praise you, tell you how brave you are, how wonderful is the thing you are doing. You'll get all that from others. I'm going to tell you the truth. Some of you won't like it. Some of you won't believe it. But one thing I can promise you. It is the truth. I know."

Deliberately he sat down. "I'm sitting because my legs are weak. They're weak because the muscles are atrophied. Your muscles will go the same. On Mars you won't notice it, but it will stop you from ever returning."

He grinned. "Don't expect to find big handsome men in the colony. They're all skinny little runts, none of them over five and a half feet tall. They dress in rough clothing. They may even smell, none of them have had a bath for years. But you'll get used to it. You'll get used to it because you will share their conditions. No coffee. No cosmetics. No fancy clothes. Nothing.

"You'll live on yeast, and drink water partly reclaimed from waste from your own body. You'll live in huts of tamped dirt. You'll have no books, no cinema, little privacy. You'll rise in the morning and start work, and you'll still be working when it's time for bed."

He gulped air. "I'm not exaggerating the conditions. I want to save you from disappointment. I want you to come to Mars. But don't delude yourselves. What your attainments are I don't know. I don't care. To me you are brood mares. To the colony you will be the same. We don't want career women. You go with the idea of bearing children—or you don't go at all."

He saw the pale faces, the empty eyes, the unfilled notebooks, and grinned savagely. He hadn't told them what they had wanted to hear. They thought they were heroines. He thought that they were fools.

He climbed to his feet.

"I want you to think over what I have told you. For your own sake I hope that you believe me. I am the head of the colony. If any of you insist on deluding yourselves, you will receive no sympathy from me. To those of you who are willing to mother a new generation, I give welcome. That is all."

As the door swung behind him the buzz of conversation filled the hall. He grinned.

Clarkson was there, Wilson, Lasser, and the sharp-faced little man Randy had met before. He smiled at them, took a chair, slumped into it without asking. Clarkson glared, remembering his rank, the others ignored the discourtesy.

"You sent for me. What is it?" Randy was deliberately curt.

"What are you trying to do, Major, wreck the project?" Wilson was sarcastic.

"Discipline is what he needs," snapped the General. "These civilian soldiers don't know what it is. If I had my way . . ."

"You haven't," Randy said coolly. "So how about a little sense for a change?"

Clarkson purpled. Lasser hid a grin. Wilson remained calm. He nodded, relaxed in the big chair, lit a cigar. Blue smoke eddied between them.

"I see that you are falling into a common error, Major," he said quietly. "You are beginning to believe your own publicity. We've made you a hero, so you really think you are one," he sneered. "To me you're just a tramp." He ignored Randy's start of anger. "Because you've spent a few years away from home, you think that you're something special. You're not. I could take any tramp off the street, give him a build-up, and he would be as good as you ever were."

He smiled thinly. "And I could break him just as easily."

"You overlook one point, Wilson." Randy fought the desire to smash the fat face. "I've got nothing to gain. I can't stay here. What good is all this ballyhoo to me? Money? I can't spend it. Fame? I'm already in the history books. What have you to offer?"

"Not much," Wilson flicked ash into a tray. "Just one thing. A trip to Mars. Well?"

"It means a lot," agreed Randy. "It means my life. But I'm not too sure even of that." He looked at them, fighting the anger boiling within him. "I'm only interested in one thing, the colony. What you do with your atomic toys doesn't worry me. When you finally manage to blow Earth into dust, the colony will still be safe. I want to be there."

"Then why try to damage the project?" Clarkson snapped. "That little talk you gave the women caused half of them to back out."

"Good." Randy waved smoke from his face. "We can do without them."

"But the whole idea is to persuade women to go. You know that."

"What sort of women?" Randy forced himself to be calm. "And how many? I know what conditions are like. You should understand, General. You must know how any large group of men react to too few women. Haven't you ever had trouble at a base camp?"

Clarkson nodded slowly, reluctant to agree.

"There are almost two hundred men on Mars. Most of them have been there several years. Who gets priority? If we have too few women, it will be worse than none at all. If we get women who are finical, or who want to remain single, more trouble. There is only one solution. Either we ship enough women for every one, or we send a few of the sort we don't want on Mars anyway." He grinned wryly. "Unfortunately polyandry wouldn't be

acceptable. It isn't the custom for a wife to have several husbands at the same time."

"He's right, Wilson." Clarkson was an unexpected ally. "This trouble crops up at army camps all the time."

Wilson grunted. "Well, Major. What's the position?"

"I want assurance of my return to the colony. I want a free hand in choosing the women."

Wilson sat thoughtfully, staring at Randy. With a sudden gesture he ground the cigar into the ash tray. "On one condition. You get the women. If you're leaving on the next rocket, I want two hundred ready and eager to go by then. The quicker we start shipping the better."

"You'll get them," Randy promised. "I want them as much as you do." Somehow he didn't hate Wilson quite so much.

The masseur filled his palm with oil, rubbed his hands, and firmly gripped Randy's thigh. He lay nude, his body gleaming with oil, relaxing under the expert ministrations. As the strong, supple fingers eased the soreness of tender muscles, Randy fell into a half-doze. The click of the door jerked him awake.

Deftly the masseur adjusted a towel.

"Doctor Lasser," he called quietly. The smooth rhythm of his hands never faltered. Randy followed the direction of his gaze, and blushed in sudden annoyed embarrassment.

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A girl stood just within the door. Not tall, well made, plainly dressed. She clutched an oversized handbag, and seemed terribly nervous.

"Major Randolph?"

Randy didn't answer.

"You are Major Randolph, aren't you? She looked appealingly at Randy. Lasser slid across the room with easy grace, caught her arm, half-pulled her towards the door.

"You shouldn't have come, Gwen. I told you to leave everything to me."

"But he's getting worse, doctor. If Major Randolph would only see him."

"Not now. Later perhaps, but not just yet. Trust me, Gwen. Please go now."

Reluctantly she allowed herself to be guided from the room. Randy stirred himself in sudden curiosity. "Wait," he called.

Lasser didn't appear to hear him.

"Hold on a minute," yelled Randy. "What goes on?"

With a quick twist the girl broke free from Lasser's grip, ran across to the bed. "Please, Major Randolph," she gasped breathlessly, "will you come?"

"Where?" puzzlement creased his forehead.

"Home with me, to see my brother," she stared at his blank expression. "Didn't Doctor Lasser tell you?"

"I don't believe he did," said Randy drily. "Maybe it slipped his memory."

Lasser bit his lips with annoyance.

"Will you wait outside, Gwen? I'll explain to the Major."

She hesitated, looking at Randy appealingly. Suddenly he became miserably aware of his scrawny body.

"Please do," he said softly. "I won't keep you long."

The masseur followed her out.

Lasser sighed, and sat on the bed. "Before you get any wrong ideas, let me state that I believe the worse thing you could do would be to see her brother."

"Why?"

"Her name is Lomas. Her brother is John Lomas, 'Atom' Lomas. Perhaps you remember him?"

"I'll say I do!" Randy swung off the bed in sudden excitement. "Why he was the first head of Tycho Station, the third man on the Moon. Why haven't I met him before?"

"I told you."

"To hell with that!" Randy grinned at memories. "I saw him on video before his last trip, must be all of ten years ago. What happened to him?"

"Shall we go and find out?" Lasser sighed. He didn't look too happy.

They lived in a rented bungalow on the edge of town. Twice on the journey the girl had tried to say something, each time changing her mind. Now, as they stood within the tiny hall, she tried again. Lasser cut her short.

"Better go and see if John is awake, Gwen. The Major will understand."

She flashed Lasser a look of gratitude, and left them alone. Randy shifted uncomfortably.

"What's the mystery, Lasser?"

"No mystery. Just don't be surprised. Ready?"

Gwen had come back. She had slipped off her street things, and looked very cool and attractive in a simple dress. Randy was pleased to notice that she was no taller than he was.

She glanced questioningly at Lasser, and smiled at Randy. "I can't tell you how much this means to both of us. He has looked forward to seeing you ever since you landed. Will you come now?"

They followed her into the back room.

The man in the bed couldn't have been more than forty, but he looked over twice that. Lank white hair straggled over the pillow. Sunken eyes stared weakly from a face awful in its wasted pallor. Arms, thin as those of a child, lay motionless on the coverlet. A reading table, with automatic page turner, had been pushed aside.

Randy stared, glanced at Lasser, then back to the figure in the bed. Gwen smoothed his hair, spoke gently to her brother.

"John, dear, Major Randolph is here to see you."

Something came to life in the wasted shape. Fire gleamed fitfully in the sunken eyes. A hand twitched.

"Hello, Major. Glad to see you. How's the colony?" His voice sounded like the rustle of dry leaves.

"Fine." Randy swallowed hard, and forced a grin. "You should have been there. Old space dogs can't waste time in bed, you know."

Lomas cackled. "I've had my turn, boy. I built Tycho." Pride sounded in the thin voice. "Five years it took, and I didn't set foot on Earth in all that time."

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Paper lids fluttered over faded eyes. Shallow breathing became deeper, slower. Lasser jerked his head at the door.

Outside Randy wiped his face, and shuddered. "What—?" he began, but Lasser cut him off.

"I think we could all do with some coffee, Gwen. How about it?"

She hesitated, glancing at the bedroom door. Lasser smiled understandingly. "We'll see him again before we go," he promised. "Coffee?"

She smiled, and hurried away.

Lasser looked grimly at Randy. "Well? Was I right?"

"Were you?" he said. "I don't know. What's the matter with him?"

"Can't you guess?"

Suddenly Randy felt very sick.

"It sounds very simple," Lasser explained. "A third normal gravity, and you have three times normal strength. But have you? At first, maybe, but muscles must be exercised, if not they atrophy." He gestured towards the bedroom. "Lomas literally hasn't the strength of a baby. Five years at one-sixth normal have wasted him to an extent unbelievable to any without experience."

"But can't something be done? Massage? Treatment of some kind?"

"Return to Tycho is the only thing that could help—if he could stand the shock of take-off, which he can't."

"Why didn't you want me to see him?"

"Has it done you any good? How many would ever leave Earth if they knew of the price they had to pay?" Lasser slumped into a chair. "I knew Lomas in the old days. Part of what happened was his own fault. After his successful flight, the idea of a settlement was kicked around. Some bright desk polisher got the idea that the Moon would be a perfect place for launching tubes for atomic missiles." He laughed without humour. "Lomas was used to whip up enthusiasm. Made head of the project. He needn't have stayed the full five years, but he wouldn't return."

"Why not?" asked Randy dully.

Lasser shrugged. "Who knows? I think that the hero bug bit him. While he was in charge Lomas was the boy. The intrepid space conqueror. What a home-coming he must have planned!"

"And?"

"The Mars colony was launched. Lomas wanted his finger in every pie. He agreed to return, to play the hero again. Money was needed. He would have been useful." Lasser stared blankly into the past.

"They carried him from the rocket. He has never walked since, never will again."

The click of crockery warned them of the return of Gwen with the coffee. Lasser stood up, smiling, poured out three cups. Randy forced himself to sip at his.

Gwen sat down beside him. "Did Doctor Lasser explain about my brother?" she asked.

He nodded.

"Now you know why I asked you to visit him." She laid a hand gently on his arm. "If he could only get into space again . . ." she hesitated.

"Would it be possible for you to get him to Mars?"

"No!"

She frowned at the abrupt refusal.

"He would never survive the shock of take-off," Lasser explained. "Those extra gravities would kill him." He stood up. "I'll be with John if you want me. Why don't you step outside, Gwen? Randy hasn't much longer to see Earth, he might like the view."

It was night outside. Randy thought that Lasser had been cynical when he spoke of a view, until he looked upwards, and saw the Moon.

Gwen noticed his rapt attention. "You like it?"

He nodded, staring at the full white orb, the incentive to man to conquer space.

"I hate it," she whispered. "It ruined my brother."

He couldn't think of anything to say.

She stood close to him, so close that he could smell the perfume of her hair. Suddenly he wished that he could stay. He was glad when she pointed a finger.

"Look! There's Mars. That red star just over the horizon."

"Home!" he said jokingly.

"You want women there don't you?" she said softly. "My brother is dying. I know that. I must stay here while he needs me, but after . . ."

"No."

"But why not? What good am I here? On Mars I will be helping everything that Man stands for. Progress. New civilisations. Why shouldn't I be a pioneer?"

"Why should you be a fool?" Randy sounded unnaturally harsh. "What does it get you? Your brother is dying. I will die if I don't leave Earth. Do the plaudits of the crowd mean so much to you? It's your life remember. All of it. There is no return."

"But . . ."

"There are no buts. Do you know why women are wanted on Mars? To serve as bait for men. Why? Because they want more atom bombs." He laughed curtly. "We give them the stars, whole new worlds to develop—and they covet their neighbour's backyard."

She stared at him in sudden wonder.

"I never thought that you could feel this way. You're a hero. Men envy you. People praise you. Why are you so bitter?"

"So people praise me," he mused. "Will they praise me when the bombs start raining down from the Moon? Will they praise your brother who built the launching tubes?" He jerked a thumb behind him. "There's your hero. A broken dying man. Do they know? Would they care? No! They don't want a sick hero. That's why I was recalled."

She frowned. "I don't understand."

"Where are the others?" he breathed. "Was your brother alone on the Moon? Where are those who didn't have the luck to be well known? Are they dragging their lives out in some charity ward? What happens to heroes—when they live too long?"

High over their heads a meteor flamed into sudden brilliance.

THE END

HOME IS THE HERO

Postmortem

● Mr. P. Cutler, who represents a strong group of readers in Portsmouth, writes: "I must congratulate you upon a very strong line-up in the March issue. I consider it to be one of the best yet. Was surprised to see A. E. van Vogt—surprised and pleased. 'Enchanted Village' rates top place in my line-up. Quite a departure from his galaxy encompassing works and a yarn which did not entail reaching for references to null-A semantics.

"Am pleased to see that Messrs. Tubb and M'Intosh have returned to full strength—"Third Party" held the interest, and although in the opening stages I would have laid odds on another Time Tracking epic, the neat and unusual conclusion was very well received.

"The article by Francis Arnold was most interesting. I was aware of the many difficulties which had to be overcome in the early stages of *New Worlds*, and am glad that mention of the herculean task has been made. By the way, the art work is still of a high standard and improving all the time."

● Dave Gardner sends a comprehensive survey of the March issue on behalf of the Liverpool Science Fiction Club, including the fact that "the general verdict on the van Vogt story was that it is not really fair to the other authors to have to compare their work with his. 'Enchanted Village' was a polished, well-told story by a master of science-

fiction—not complex as his usual work—but, shall we say, beautiful in its simplicity.

"Next a request for no more reprints. Not even good ones like 'Enchanted Village.' We know your ideas on the reprint angle, but there is one point that must be considered—most of the fans in England now get American publications or reprints of American issues, and it is not fair to have to read a story in both English and U.S. mags.

"Collectively we are all cheesed off with Clothier's covers and don't want to have to look for his name or initials hidden on the cover. Please get somebody new. Out of eleven covers, Clothier has had eight (and what shockers they are!) and Dennis, Bull and Quinn one each.

"The article 'The Circle of the White Horse' met with general approval, and we'd like to see more like this."

[But—"Enchanted Village" will not be reprinted in any other British magazine—and what about the thousands of readers who don't get American issues?—Ed.]

● John Brunner of Reading, commenting upon the Winter 1951 issue, states: "You know, I honestly and seriously believe that if *New Worlds* was marketed on a big scale in the States it would hold its own with any of the magazines published there. I like the latest issue especially because it presents a number of fine stories with the usual *different* atti-

tude to the future. I hope that I'm not alone in the belief that "Time Was . . ." was far too short. Rayer could have advantageously extended the whole idea. Get him to write a 30,000 word novella—he's fine."

[*The other half of "Time Was . . ." comes up in the July issue entitled ". . . Man's Questing Ended."* Sorry we haven't room for extra long stories in one issue.—Ed.]

● Mr. H. P. Sanderson of Manchester says: "Clothier's cover for the March issue was super, but Quinn walks away with the honours for the interior illustrations. One of my personal dislikes, which I would like to mention is this: I think you have too many sequels and series stories. Things tend to become a trifle complicated. I have lost count of the number running at the moment, but, while the stories themselves are quite good, some leave me with the impression that they would have been far better as a complete three-part serial—Aiken's Galnos stories, for instance.

"At that time you couldn't publish serials because the date of the next issue was never certain, but now, how about risking it?"

[*We're risking it.*—Ed.]

● Leslie Jackson, Chairman of the Norwest Science-Fiction Club, commented that the Winter 1951 editorial entitled "Percentages" was "very witty and entertaining. I also see that not enough of the readers are sending in their opinions on stories, etc. (including me).

"One thing I really do approve of is the inside illustrations by that super artist Quinn. What an artist! He is the greatest discovery in English science-fiction artwork today and that was a great move on your part in securing him. Alan

Hunter is improving with each issue, but Clothier seems to go up and down with various issues. On the whole you have a very good team of artists. By the way, I want to praise Clothier's present cover (on the Winter 1951 issue). I think it is the best one you have had."

● Reader P. C. Burke, from "down under" in New South Wales, also has some art comments to make. "Allow me once again to congratulate you upon the excellence of your publication, which has, despite occasional lapses, continued to improve with each issue. As for your cover illustrations, I do not think they could be bettered anywhere—I think they are the finest examples of this type of work I have ever seen. One or two covers on competitive magazines may occasionally equal but never surpass them.

"I note with great approval a developing "British" atmosphere in your stories, which gives them an entirely new and satisfying flavour."

[*A Portsmouth reader recently commented: "I had no idea, until reading New Worlds, that a space port existed in Manchester. I thought they were situated in Chicago, New York and Los Angeles!"*—Ed.]

● Edward G. Seibel of California throws this small bomb across the Atlantic: "I'd like to give you my overall impression of this issue of *New Worlds* (January). I had missed the two previous issues while waiting for my subscription to go through; I was therefore very happy when I saw this issue in my post office box. After reading its contents I was overwhelmed! I really hadn't expected your magazine to undergo such an amazing improvement—not that it wasn't good as it was before; if it hadn't been good I never would have subscribed.

"Just before I received your issue I had received the latest copy of *Galaxy* (Jan.), and its contents were fresh in my mind. I would say that, in comparison, your magazine was better in content than *Galaxy*, the art work comparable, and the production *better*. You have, in my opinion, a first-class magazine; just this one issue will forever silence any regrets at subscribing that might have cropped up in the vague future."

[*Oh—well!*—Ed.]

● Mr. A. Stead of Southend-on-Sea, Essex, says: "I am very glad to see an English science-fiction magazine competing so well with the American "British" reprints. I have been a reader of science-fiction for some twenty years and have had the good fortune to be able to study the scientific side of engineering at university and to work in a research department and have found many scientific colleagues to be keen science-fiction fans.

"Amongst the best science-fiction stories I would place John Beynon's 'No Place Like Earth.' I found it very good—one could almost feel oneself chugging along the Martian canals. In No. 8 I liked the amusing 'Robots Don't Bleed' and 'Chemical Plant.' 'Guardian Angel' wasn't quite up to Mr. Clarke's shorter stories. In No. 10 'Machine Made' and 'Ape' were very good; 'Cosmic Mirror' in No. 11 excellent, and all the short stories in No. 12 were first class. On the whole I think you are doing very well indeed and helping to lift science-fiction back to its old level when such epics as 'Grey Lensman' used to grip us. By the way, the cover to No. 9 depicting a scene from 'No Place Like Earth,' was a masterpiece!"

[*Beynon's Martian story is the title story of a forthcoming all-British*

anthology—and at least three other stories mentioned above are in the same volume.—Ed.]

● John Gutteridge of Shoreham-by-Sea, Sussex, asks: "Would it not be possible to make just a small space for readers' letters? After all, the letter part of a magazine is often the best part of it—and—you might get more fans to vote on the stories if you do."

[*Are these three pages small enough—or large enough?*—Ed.]

● R. L. Dammett, B.Sc., of Brislington, Bristol, says: "One of the 87 per cent. says a word or two after many years of absorbing and patiently reading science-fiction, and even science-fiction 'comic space opera.'

"Surely the best judge of any story is Time; in my experience the greatest story is that one which can be read again and again without losing its appeal. Every so often one story comes along which makes a lasting impression. Probably the most memorable I have read is 'Machine Made' by J. T. M'Intosh. I have read widely, everything as long as it was good. As science-fiction, M'Intosh's story was not of the best, but as a story it is worthy of ranking among the best of any type of literature.

"May I add a word of praise for Quinn? Two of the finest illustrations I have ever come across were published with 'The Tree.' Brilliant—but please keep him off the covers. Undoubtedly your best issue was No. 11. As good as the best. Keep up the standard set—and the article in each issue makes it value for money."

[*How about Quinn's cover on this issue—and this issue for a better standard than No. 11?*—Ed.]

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